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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and to improve the character of the service rendered to the public.

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EXTRACTS FROM THE PRESIDENT'S MESSAGE.

The question of the regulation of trusts is considered at length by the President, his recommendations for their control being publicity as to their operation, and national instead of state supervision. The creation of a Department of Commerce with a Cabinet Minister at its head is recommended.

The prompt re-enactment of the Chinese exclusion law is urged as essential to the protection of American labor. The enforcement of the eight-hour law, the forbidding of night work for women and children and a prohibition of excessive overtime and an improvement of our immigration laws are further recommendations in the interest of labor.

The continuance of our present tariff policy is shown to be essential to our prosperity, but reciprocity is recommended as the handmaid of protection. Our inter-state commerce laws should be amended and our experiments under the Department of Agriculture continued.

The condition of the American marine is such as to call for immediate remedial action by Congress. We should no longer submit to conditions under which only a trifling portion of our great commerce is carried in our own ships.

The prompt completion of a Pacific cable, the building of an Isthmian canal and the maintenance of the Monroe Doctrine are matters discussed in the message. "We do not wish to see any Old World military power grow up on this continent, or to be compelled to become a military power ourselves. The people of the Americas can prosper best if left to work out their own salvation in their own way."

The work of upbuilding the navy must be steadily continued. No one point of our policy, foreign or domestic, is more important than this to the honor and material welfare, and above all to the peace of our nation in the future. Whether we desire it or not, we must henceforth recognize that we have international duties no less than international rights. Even if our flag was hauled down in the Philippines and Porto Rico, we should need a thoroughly trained navy of adequate size, or else be prepared definitely and for all time to abandon the idea that our nation is among those whose sons go down to the sea in ships. Unless our commerce is always to be carried in foreign bottoms, we must have war craft to protect it.

Our people intend to abide by the Monroe Doctrine and to insist upon it as the one sure means of securing the peace of the Western Hemisphere. The navy offers us the only means of making our insistance upon the Monroe Doctrine anything but a subject of derision to whatever nation chooses to disregard it. We desire the peace which comes as of right to the just man armed; not the peace granted on terms of ignominy to the craven and the weakling.

The Naval Militia forces are state organizations and are trained for coast service, and in event of war they will constitute the inner line of defense. They should receive hearty encouragement from the General Government. But in addition we should at once provide for a National Naval Reserve, organized and trained under the direction of the Navy Department, and subject to the call of the Chief Executive whenever war becomes imminent. It should be a real auxiliary to the naval sea-going peace establishment, and offer material to be drawn on at once for manning our ships in time of war. It should be composed of graduates of the Naval Academy, graduates of the Naval Militia, officers and crews of coast-line steamers, longshore schooners, fishing vessels, and steam yachts, together with the coast population about such centers as life-stving stations and light-houses.

AN INSURANCE CASE.

An important suit involving the liability of agents in the placing of insurance, and having especial application to marine insurance, was concluded in the Circuit Court at Port Huron on Tuesday.

The case was one brought by William McCulloch against David McMorran, growing out of the burning of the schooner Lena Behrn a year ago. McCulloch had the vessel insured through Mr. McMorran's agency and the risk was placed in a company not licensed to do business in this state.

The company, for some reason, refused to adjust the loss and had no representative in the state on whom service could be obtained in bringing suit. The defense set up the claim that the Michigan statute requiring insurance companies to be licensed to do business in Michigan was not applicable to marine insurance, and if it were it would be in conflict with the federal regulations on commerce. This contention was overruled by Judge Law and the jury returned a verdict for the plaintiff of the full amount asked for, $2,194.25.

The questions raised were new in the courts of Michigan and the case will likely be carried to the Supreme Court.

TO THE BONE YARD.

Three old-time war ships are to be stricken from the list of the navy and sold as junk to the highest bidder. They are the Monitors Catskill, Manhattan and Mahopac, all of which served in the civil war, and on the inner line of defense in the war with Spain.

The three are models of the original monitor, and one, the Catskill, was constructed by John Ericcson, the designer and builder of the famous "cheese box" that destroyed the Confederate ram Merrimac and revolutionized naval architecture. It was on the Catskill that the body of John Wilkes Booth lay at the Washington Navy Yard before it was consigned to its unknown burial place.

All of the old monitors of the civil war previously sold have gone to dealers in the breaking-up business. Officials of the Navy Department wonder why some of them have not been purchased by waterside clubs or historical societies. They would make unique club houses or something after that style, and be found more lasting than the ordinary construction

REPORT OF THE INTEROCEANIC CANAL COMMISSION.

The report of the committee appointed to investigate the feasibility of the construction of, and to estimate the cost of, an interoceanic canal in the Nicaragua and Panama routes has now been made public. It makes an estimate of $189,864,062 as the total cost of the construction of the canal through Nicaragua. The estimated cost of the Panama route is $144,233,358, but the report says it would cost $109,141,000 to obtain the Panama concession. The commission value the work done at $40,000,000. The report says the Panama route is feasible as a sea level canal, while the Nicaragua route must be by locks, but Lake Nicaragua will furnish an inexhaustible supply of water for the canal. The Nicaragua route has no natural harbors at either end, but satisfactory harbors may be constructed. Harbors already exist at each end of the Panama route, but considerable work must be done at the entrance to the harbor on the Atlantic side. The commission estimates that the Nicaragua Canal can be completed in six years, exclusive of two years for preparation. Ten years is estimated to complete the Panama enterprise. The total length of the Nicaragua route is 163.66 miles, and of the Panama route 49.03 miles. The estimated cost of operating and maintaining the Nicaragua Canal annually is $1,350,000 greater than that of the Panama Canal. The estimated time for a deep draught vessel to pass through the Panama Canal is 12 hours, and through the Nicaragua Canal 33 hours. The Nicaragua route is more advantageous for commerce, save that originating on the west coast of South America. For the gulf ports the advantage is two days, and for most of the ports on the Atlantic and Pacific, one day. The Nicaragua route is said to be better for sailing vessels on account of favorable winds. Hygienic conditions also favor Nicaragua. The commission recommends that the United States acquire control of a strip of territory 10 miles wide from sea to sea through which to build the canal. The consent of Nicaragua and Costa Rica must be obtained to construct the canal, but the report says this can easily be secured. The concessions granted by the Colombian government to the Panama Canal Co., have many years to run, and new concessions cannot be granted the United States.

"After considering all the facts developed by the investigations made by the commission, the actual situation as it now stands, and having in view the terms offered by the New Panama Canal Co.," the report concludes, "this commission is of the opinion that the most practicable and feasible route for an isthmian canal, to be under the control, management and ownership of the United States, is that known as the Nicaragua route."

Mr. George S. Morrison submits a minority report favoring the Panama route. He says the estimates for the Nicaragua Canal do not make sufficient provisions for unknown conditions and contingencies. No consideration, he says, has been given the accidental interruption of traffic by Nicaragua, which he thinks would not be so likely to occur at Panama. He believes better conditions and terms can be arranged through the acquisition of the Panama Canal Co.'s rights than by any negotiations with Nicaragua and Costa Rica. The government, after securing these rights, he says, could negotiate direct with Colombia for the right to construct the canal. He closes by saying: "The Panama route has advantages over the Nicaragua route in cost of construction and in cost of operation.

CHICAGO.

Special Correspondence to The Marine Record.

The steamer Ramapo, of the Union Line, got away on Sunday and is among the last of the fleet for Buffalo.

A number of coal cargoes are expected to arrive this week from Buffalo and Ohio ports. One dollar is now the rate of freight.

The movement of grain eastward from Manitowoc by car ferries has been begun, and the shipments are expected to continue heavy throughout the entire winter.

It has been determined to repair the Empire and Badger State at the South Chicago yards of the American Ship Building Co. Both steamers will enter the Barry Line next summer.

The ship calkers are on strike for an eight hour day and full pay as formerly. It is thought that this may drive work on wooden vessels away to other Lake Michigan ports, although large repairs are already booked ahead for the winter.

The C. Reiss Coal Co. received 116 coal cargoes during the season at their Sheboygan docks, evenly divided between soft and hard coal. The receipts were larger for this year than heretofore, while the company also did an extraordinary business at their docks at Manitowoc, Escanaba, and Ashland.

C. A. McDonald, President of the Shipowners' Drydock Co. says that he does not look for any delay in repair work at the shipyard this winter owing to the strike of the calkers. He is confident that all the men needed will be found to do the work in as expeditious a manner as required and that there is a busy time ahead at that.

Wickes Brothers, of Saginaw, Mich., report a large business in all their lines including water-tube boilers, boiler shop and ship yard tools, saw mill machinery and second hand machinery. Their water-tube boilers and boiler shop tools are sold not only from Saginaw but also from their branch offices at Chicago, Pittsburg and New York.

The following meteorological observations are furnished by the office of the United States Weather Bureau, Chicago, for the week ending noon, December 11: Prevailing wind directions for the week, southwest; highest velocity, 38 miles from the south on the 7th; mean temperature for the week, 31 degrees; highest temperature, 38 on the 8th; lowest, 23 on the 6th.

The Weather Bureau will keep all its stations on the upper lakes open until December 15, on account of the unusual number of boats remaining in service after the expiration of insurance. This is a full week later than the signals have been continued in the past. There is every evidence that the Department is willing to assist lake commerce to the full extent of its capabilities, and the officers at the lake ports are markedly courteous towards marine interests.

At the offices of the Barry Line it was denied that any sale had been made or would be made of the Waukegan-Kenosha branch of the line. Negotiations had been under way for the sale of the line to Captain Pitman, who commands the City of Grand Rapids, and H. A. Kennedy, and B. G. Cameron, agents of the Barry Line at Waukegan and Kenosha, but no deal has been concluded. The City of Grand Rapids will be kept in service all winter between the three ports by the Barry Line.

Supplies for vessels, railroads and mills are illustrated in a leather bound catalogue issued by George B. Carpenter & Co. This catalogue comprises 450 pages. The line of goods used for marine purposes covers ship chandler's stores, cordage, oakum, naval stores, tackle blocks, cotton duck, general marine hardware, hose, belting, packing, rubber goods, flags, wire rope, contractor's supplies, hoisting machinery and, in fact, all hardware and apparatus which is needed in the engine and hull department. In addition to this catalogue this company publishes a revised price list covering the goods described.

Captain John Cochrane attributes the stranding of the steamer Parks Foster, on Chambers Island, to compass deflection. The weather was very thick, and the lead in constant use. When shoal water appeared the engine was reversed, but not quite quickly enough, and the vessel drifted on sideways. If aid could have been secured within a few hours all might have been well, but it was fully twenty-four hours before assistance came, and by that time the action of the water had drifted sand all around the steamer. In addition to the grain lightered some was thrown overboard. It is reported from Marinette that thirty or forty fishermen residing in Door County, between Egg Harbor and Sister Bay made considerable money by carrying grain ashore from the Foster in their boats.

CLEVELAND.

Special Correspondence to The Marine Record.

Erie to Milwaukee with coal at $1.00 was a Wednesday charter.

The Detroit Navigation Co. closed its season this week and all passengers will now need to travel by rail.

The Presque Isle, Angeline and W. F. Sauber will winter at Ashtabula. Last year only nine boats laid up at Ashtabula. This winter there will be nearer twenty.

Lorain will have its full quota of vessels for winter moorings and each vesel may be considered as worth several hundreds of dollars to the port in the expenditures for laying up, fitting out, etc.

An important meeting of the Licensed Tugmen's Protective Association will be held at the lodge rooms on Superior street Friday evening. The officials are anxious to have all the members present.

The Cleveland life-saving station will close for the season at the end of this week. The crew have rendered valuable service and Captain Motley is to be credited with maintaining excellent discipline on all occasions.

While the season iron ore shipments are now placed at 20,500,000, exceeding last year by 2,000,000 tons, it is predicted that fully 25,000,000 tons will be sent forward next year. This increase will assist in employing the tonnage now under construction.

There is some talk of masters and pilots getting together this winter and forming a strong protective association. It is said that since the strike last spring engineers have had everything their own way, and now the forward end of the boat wants a show.

The statement is made that E. S. Mills, the assistant general manager of the Pittsburg Steamship Co., is rapidly improving, and after a long siege in the hospital, is able to sit up a part of each day. It may be the first of the year before he will return to his desk and active duty.

The steamer Frank W. Hart, the second of the large steel cargo steamers building for Mr. J. C. Gilchrist, will be launched at the Lorain yard of the American Ship Building Co. Saturday. The launching party will leave here at 10 o'clock by special electric cars and the launch will take place at noon.

Captain C. H. Sinclair, general manager of the Great Lake Towing Co., received a dispatch from Chicago this week stating that a contract had been closed with the city for doing the winter work at that port. Several tugs will be kept at work during the winter, keeping channels open and making trips to the water works cribs when necessary.

The conference between the representatives of the longshoremen and the dock managers was held on Saturday. The wage scale agreed upon was ratified. It provides for a rate of 7½ cents a ton for loading ore from stock piles to the cars by machinery and 9½ cents per ton for loading ore by hand. The latter rate is an advance of ½ cent.

The Cleveland Cliffs Co. is preparing to open a new and very expensive mine at Negaunee, Mich. It is expected that $1,000,000 will have to be spent for land and sinking the shaft before ore can be mined. There is a large deposit of ore, but it lies under about 200 feet of quicksand, and to reach it will be costly work. Pumps that will handle 4,000 gallons a minute are to be installed.

The harbor master has issued some stringent orders about laying up boats this winter. He does not propose to have two boats lying abreast at any one dock, for fear of blockading the river. Although all of the boats are not in yet, the space is about taken up, as nearly the only available dock space is along the old river-bed. The best possible facilities will, however, be given to all vessels wintering here.

The plans for the new dock which the Detroit & Cleveland Line is to build at Detroit to take care of the two new steamers of the Detroit and Buffalo Line, have been made here by D. C. McIntyre. The dock is so built that the lines of the new boats will fit into it exactly. Mr. McIntyre has a special talent for such work and has done most of the light designing for the company for the last twelve or fifteen years.

The McMyler Manufacturing Co., of this city, has secured the contract for building the fast plant to be operated on the lake front by the National Fuel & Dock Co. Work on the machines will be started at once, and it will be completed by the opening of navigation next spring. The machine will be about six feet longer than any now in use, and will be able to handle cars of any size. It will be a side dumping machine.

Captain John Kirby, a well-known retired lake master, died at his home, No. 56 Twenty-third Ave., on Monday. Captain Kirby was seventy-six years of age. He had been gradually failing in health for the last two years. After retiring from active duty on the lakes about fifteen years ago, Captain Kirby acted as harbor master for the port of Cleveland for two terms, also a captain of the Superior street viaduct. He leaves a widow and one son, John Kirby, Jr., who has followed his father in seeking employment on the Great Lakes. Arrangements for the funeral have been made for Thursday.

The following information was received at the local weather office from the chief of the Weather Bureau: The discontinuance of the display of storm warnings on the lakes for the season of 1901 is announced as follows: On Lakes Michigan, Huron and St. Clair, at the termination of December 14. On Lakes Erie and Ontario, at the termination of December 15. On Lake Superior, with the closing of the locks in the St. Mary's Canal.

The last boat of the season of the D. & C. Line left here Wednesday night. The steamer City of Detroit made the last sailing. She had expected to lay up on her previous trip to Detroit, but was called back to handle additional freight which had to be taken care of. When she went out, the tugs, which have been making night hideous along the dock for the last few nights in giving a farewell salute, exceeded their best previous efforts.

Captain George P. McKay, chairman of the Lake Carriers' Committee on Aids to Navigation, states that the light-ship Kewanee will be kept on her station at southeast shoal until all the boats have passed. All the downbound vessels will reach Lake Erie ports early next week, but if the weather remains favorable some coal may be shipped next week. Owners that expect to have ships out after this week should notify Captain McKay.

Shipbuilders' tools in great variety are illustrated and described in a new catalogue which has just been issued by the Cleveland Punch and Shear Works Co. This company makes a specialty of tools for ship and boiler builders. The tools shown in the catalogue include punches, shear rolls, plate planers, bending machines, cold saws, lever and screw feed post drills, etc. Shipbuilders as well as every boiler maker, should have a copy of this catalogue on file.

In his annual report Secretary Gage recommends the appropriation of $250.000 for continuing harbor improvements at Cleveland. The report makes these recommendations for appropriations for harbor improvements along the Ohio coast line: Toledo, $250,000 and Ashtabula $300,000 and $100,000 for maintenance; Lorain, $300,000 and $6,000 for maintenance; and for continuing improvements and maintenance these appropriations: Conneaut, $200,000; Fairport, $210,000; Huron, $35,000; Port Clinton, $5,000; Sandusky, $125,000; Toledo, $15,000.

PORT ARTHUR.

Special Correspondence to The Marine Record:

Application will be made to the Canadian Parliament next session for an act to incorporate a company under he name of the "St. Joseph & Lake Huron Ship Canal Co.," with all necessary powers to construct, operate and maintain canals so located as to make a navigable waterway from some point on the eastern shore of Lake Huron in the County of Huron, or of Lambton, in Ontario, to some point on Lake Erie (between Rondo Harbor and Port Burwell), in the County of Elgin, with power to vary the above routes should further surveys prove it advisable, and also for all other powers in connection with operating a ship canal

The new steamer, Henry Steinbrenner, built by the Jenks Ship Building Co., of Port Huron, for the Kinsman Transit Co., of Cleveland, O., has proved herself not only a remarkably large carrier for her dimensions, but has shown indications of great speed. She arrived in Ashtabula with a maiden cargo of 6,103 gross tons of iron ore. When she left Presque Isle dock her mean draft was 17 feet, so it is safe to presume she will crowd 7,000 tons very closely next season when the water is higher and she can be loaded to 18 feet or over. An examination of her log shows her to have made the distance between Detour and Thunder Bay Island in 5 hours, 25 minutes, which is a speed of 13 10-13 miles per hour. This speed was not kept up all the way to Fort Gratiot light, as it was desirable to economize on fuel, although the Steinbrenner is a very easy steamer, but the fact of her boilers not being covered and her heaters using considerable steam, made her use more steam than would be necessary in the summer months. A number of our fast steamers will have the pleasure (?) of reading the name on the stern of this steamer during the coming season when her engines are worn down smooth. We wish to call particular attention to the very fine electric system installed on this boat. She has telephones everywhere on board, besides an infallible system of electric engine room signals which were put in by the patentees, Detroit Electric Signal Co. With this system of engine room telegraph, mistakes are impossible, as pilot and engineer must answer each other or else endure the continual sounding of the electric gong It is the finest system of signalling I have ever seen, and bids fair to cast the English system into the shade. The electric lighting was installed by the McCleary & Colquitt Co., 217 Jefferson Ave., Detroit. The passenger accommodations are patterned after the palatial yachts of the N. Y. Y. C. This fine steamer is managed by Mr. Henry Steinbrenner, and in command of Captain Joseph Lampoh (late of the steamer Onoko), with Mr. William Miller, (late of the J. W. Nicholas), in charge of the engines.

Captain George H. Lester, who was well known all over the lakes, died last Monday. Until his retirement five years ago on account of ill health, Capt. Lester had been for many years connected with the Toledo and Saginaw Transportation Co.'s fleet of lumber carriers.

BUFFALO.

Special Correspondence to The Marine Record:

The steamer Aurania, with grain for winter storage is laid up for the season.

The Lake Michigan coal rate closed at $1.00 per ton and the last cargoes sent forward.

A fleet of about sixty of the boats owned by the Pittsburg Steamship Co., will winter at this port.

It is now thought that the fleet wintering at this port will exceed 200 vessels, chiefly of the largest class of tonnage.

The demand of lake firemen for $1.75 per day while doing winter work on steamers has been granted by the vessel owners.

The Parsons Ship Chandlery firm, Oswego, have as is their usual custom, issued one of the handsomest calendars of the season. The old established firm is well and favorably known all over the lakes.

There are fifty-two grain-laden ships in port. According to present plans the cargoes of forty-four will be taken out as soon as the elevators can handle the grain, and the eight remaining craft will hold their cargoes in storage.

Charges against Arthur Pancott, Secretary and Treasurer of the Marine Engineers' Beneficial Association, have been withdrawn, it is said. It was alleged that Pancott had a considerable shortage in his funds, and that this has been met.

The firm of Bateman, McDougall & Palmer are doing the large repair work on the Gilchrist steamer City of Genoa, recently burnt off this port. Mr. G. W. Chase, Jr., is superintendent for the above named firm and his methods of work are much appreciated.

The funeral of Captain Alexander Walter was held from St.-Mary's-on-the-Hill Episcopal church on Monday last under Masonic direction. Captain Cyrus Sinclair, general manager of the Great Lakes Towing Co. was in Buffalo to attend the funeral. There were many handsome floral tributes from societies to which Captain Walter had belonged

The following meteorological observations are furnished by the office of the United States Weather Bureau, Buffalo, for the week ending, December 11: Prevailing wind directions during the week, west; highest velocity, 54 miles southwest, December 10; mean temperature for the week, 32 degrees; highest temperature, 48 degrees on the 9th; lowest, 11 degrees on the 6th.

The most important admiralty case of the year will be tried at Buffalo—the one growing out of the collision between the Northern Queen and the whaleback barge Sagamore in the St. Mary's river, when the Sagamore was sunk with the loss of four of her crew. The Sagamore went down in about fifteen fathoms and is a total loss. The amount involved is about $100,000, and the case promises to be hotly contested.

The wreck of the steamer Gov. Cushman, which was sunk in Buffalo river nearly thirty years ago, is to be removed. Major Symons, United States engineer, has received an appropriation of $2,500 to defray the expense of removing the old government boat. The work will be begun early next spring. The Cushman lies in about eighteen feet of water in one of the slips of the Reading Coal Co., off the foot of Georgia street.

The new manager appointed for the local fleet of the Great Lakes Towing Co., is G. H. Vroman, who is looked upon as one of the best informed tugmen on the lakes. Captain Vroman is in the steamer America. As soon as she is laid up he will take hold of the tug business. He was a friend of the late Captain Walter, the manager who died a few days ago. They used to tug together many years ago on Buffalo Creek. Last season Captain Vroman was manager of the Maytham fleet in Duluth.

It is probable that the new boats for the Anchor Line to replace the India, China and Japan, will be built at Detroit, the keel of the first to be laid next July when the Wyandotte yards of the Detroit Ship Building Co. will be free of the tonnage now under contract. Frank E. Kirby is drawing plans for the boats which are to be 361 feet over all. One hundred staterooms for passengers will be placed forward of the machinery space, and the upper decks will be devoted to the dining room and main saloon. The boats are to have 2,500 horse power and the first is to be finished in 1903.

Engineer William Brooks, of the Western Transit Line, doubts whether the body recently found on Traverse Point, Lake Superior, is that of his son Charles, the first mate of the ill-fated steamer Hudson. While the scar on the hand is identical, the general description of the body is not that of Charles Brooks. It has been found that the gold watch found upon the body has neither the number nor appearance of the timepiece carried by Brooks. It is a lady's watch, similar to one carried by Nell Peterson, the wheelsman, whose bank book and street number were found in a memorandum book on it.

A new company is in process of formation at Port Huron, to be called the Port Huron Pneumatic Co. Capt. J. L. Pilling will be general sales agent for the new firm. Messrs. W. L. Jenks, Frank Peavey, Bottsford & Jenks and Thomas Barrow, will be among the incorporators.

DETROIT.

Special Correspondence to The Marine Record.

A treatise on the steam injector and its uses, has been published by the Lee Injector Mfg. Co., Abbott street, and copies are now ready for distribution. The booklet tells a good deal about the injector, how it is constructed, how to connect it, and gives other useful and valuable information. A copy may be had free on application to the company.

Mr. F. H. Clergue, Sault Ste. Marie, Ont., has announced to the effect that the Algoma Central Steamship Co. will put two new passenger and freight steamers between the "Soo" and Windsor, Ont., next season. Work on the $250,000 dam in the St. Mary's rapids is being pushed, and no time will be lost in carrying to completion the extensive work already planned.

The Sintz Gas Engine Co., the well-known manufacturers of gas engines, are to leave Grand Rapids and locate at this city. They are building a new machine shop, 300x35 feet, at the Michigan Yacht & Power Co.'s plant. The Sintz Co. and the Michigan Yacht Co. are largely owned by the same stockholders, and the two industries will be operated in conjunction, making the work of the companies much more complete and convenient.

Plans are being prepared by Frank E. Kirby for three new passenger and cargo steamers for the Anchor Line Steamship Co., which will put the vessels on the run between Buffalo and Lake Superior ports. The boats will be three feet longer than the North Land or the North West, and will have a speed of fifteen miles an hour, with 2,500 horse power engines. The first vessel will be finished by the opening of navigation in 1903.

The Eastern States, the largest side-wheel passenger boat on the lakes and built for the Detroit & Buffalo Navigation Co., was launched on Saturday from the Detroit Ship Building Co.'s ways at Wyandotte. The boat is 366 feet over all, 45 feet beam and 19½ feet deep. She will have a passenger capacity of 3,500. In about a month the Western States, a sister ship, will be launched at the same place. Both boats will be placed on the Detroit and Buffalo route next season.

Captain James Davidson will build at his Bay City shipyard two wooden steamers to the order of L. J. Petit. The over all length of the steamers will be 200 feet, beam 36 or 37 feet and molded depth about 14 feet. The cost complete is placed by Mr. Petit at $60,000 each, and they are to be ready for service early next season. They will be placed in the Lake Michigan salt trade out of Manistee and Ludington. The firms of Burger & Burger and Rieboldt & Wolter were asked to bid on the contracts but declined to submit figures on account of already having enough work on hand.

At the request of the Lake Carriers' Association, backed by the recommendation of the Light House Board, Senator McMillan has introduced a bill appropriating $45,000 to establish a steel lightship on the southeast shoal of Point Au Pelee Passage. This is in Canadian waters, but the latter government will offer no objections. This year the Lake Carriers' Association spent $13,000 in maintaining a lightship at this point, but the recommendation of the Light House Board came too late to have the item included in the treasury estimates for the year, and private ownership cannot be expected to defray the up-keep of general commerce in this particular.

The wrecker Favorite, has been placed in winter quarters. Captain Martin Swain, who had the Favorite at work for some time on the stranded barge Smeaton at Au Train, says that the idea of using compressed air to get the water out of the Smeaton originated with Chief Engineer George L. Simmons, of the Favorite, and the reason Captain Reed was hired to do the job was simply because he had the only air-compressers obtainable. He says the matter of using the air was settled by Captain Kidd, of Duluth; Engineer Simmons and himself, before Reid appeared at all. In any case the use of compressed air was markedly successful and the vessel is now safely at a port of repairs.

Your readers may remember having seen a notice, published in December, 1900, that The Kenney Co., of New York, had commenced suit against the Ideal Manufacturing Co., Detroit, to restrain an alleged infringement of The Kenney Co.'s patents. The claim was that the Ideal "Volumeter" was an infringement of the patents covering the "Flushometer," a flushing valve. After the testimony was taken in the case, The Kenney Co. consented to a decree dismissing its bill, without a hearing in court, conceding that on the proofs the Volumeter was not an infringement of its patents. The testimony conclusively showed the Ideal "Volumeter" was in structure and operation entirely different from The Kenney Co.'s flushing valve—in fact, of a different type or class.

Secretary Barter, in speaking of the work of the Longshoremen's Union during the summer, said that there had been organized, since the meeting in Toledo in June, forty-five new locals. The most promising, he said, was that which was perfected on the docks in New Orleans, where the color line had been drawn by a perpetual agreement. This is the first time that anything of the sort has ever been done. The whites made the concessions. The situation in New York he says, is promising. There are five out of eighteen locals that are ready to affiliate, and it is expected that the vote will be unanimous at the spring meeting. This will bring in 40,000 men. Montreal and Quebec will also affiliate in the spring. This will give the Longshoremen's organization a complete chain of locals from the lakes to the gulf.

The cargo tonnage of the Sault canals for the month of November was 3,274,201 net tons, bringing the total of freight for that great artery of commerce up to 27,817,811 net tons for the season to December 1, as compared with 25,000,000 tons for the entire season last year. The month of December will bring the total for the canals up to about 28,500,000 tons, it is expected, showing an increase for 1901 over 1900 of about 3,000,000 net tons. The coal receipts on Lake Superior for November were 383,409 tons of bituminous and 137,469 of anthracite. November this year shows an increase of about 1,000,000 tons over the commerce of the Sault canals last year. Other principal items of freight in November were 8,882,472 bushels of grain, 13,348,345 bushels of wheat, 1,042,169 barrels of flour, 1,651,465 tons of iron ore, 128,773,000 feet of lumber. The registered tonnage of craft amounted to 2,910,840, and vessel passages numbered 2,226.

DULUTH-SUPERIOR.

Special Correspondence to The Marine Record:

Fully a million bushels of grain will be placed in vessels for winter storage and spring delivery at the 3-cent rate

The Duluth Towing & Wrecking Co.'s tug Crosby, which has been stationed at Ashland this season, has gone into winter quarters.

The steamer Rensselaer, which is to clear from Marquette on Wednesday, will be the last boat of the season from that port. Several vessels cleared early in the week.

The barge Smeaton, recently ashore, arrived here on Tuesday in tow of the steamer W. R. Linn, and will be put in drydock as soon as there, as facilities are arranged for her repairs.

Chartering has been done here this week at 3 cents on wheat for spring delivery at Buffalo including winter storage. All possible grain will be placed on shipboard as a heavy stock will be in the elevators by the opening of navigation next spring.

The Weather Bureau reports under date of the ninth: Harbor ice continues to range between 4 and 7 inches. Open water on Duluth side of Superior Bay. Through navigation about over; last departures morning of 7th; a few up-bound boats due.

The total shipments of iron ore from the Mesaba and Vermillion ranges during the season which has just closed reached the great sum of 10,787,720 tons. This is an increase of 1,362,815 tons over last year, the total for that year being 9,424,905 tons.

It is now suggested to remove the engines from several of the oldest whaleback steamers in the winter fleet at the head of Lake Superior, with the view of converting them into tow barges The assertion is made that parts of the engines of these steamers are about worn out, and the belief is entertained that it would not be a paying proposition to replace them with new ones.

Captain William Osborn, of Duluth, has given an option on his sand and gravel barge patents to a company that contemplate building three, two to be located on the Great Lakes, and one to be located in Florida, in the pebble phosphate business. They will be built entirely of steel, carrying capacity about 1,000 yards apiece. The company also has several other points that they are figuring on at the present time.

The recent discovery of ore about one-fourth mile east of the first opening of the Champion mine, Champion, Mich., is a matter of comment in Lake Superior iron mining circles. The new deposit has been stripped for 100 to 150 feet in length and shows from four to twenty feet in width which is about as wide as the surface showing at the old Champion mine. If it should widen as the work deepens, as has been the history of the old workings, the life of the Champion property will be greatly prolonged.

Ore transportation facilities will be considerably extended during the present winter, but still not to an unusually large extent. The Duluth, Missabe & Northern road will buy about a dozen locomotives, costing about $150,000; the Duluth Iron Range road will re-build one of its docks at Two Harbors at a cost of about $100,000, and the Chicago, Milwaukee & St. Paul road, which has not been engaged very long in the ore trade, will buy about 1,000 50-ton ore cars, costing about $600,000. About thirty ore carying vessels are under construction or contracted for.

The question of how much Capt. James Reid, of Sarnia, is to receive for releasing the steel barge, John Smeaton, is answered by a Duluth vesselman, who says $13,000. "Captain Reid will make about $10,000 net on the wrecking job. He gets $13,000 for releasing the boat and delivering her to the port of Marquette, and it has probably cost him $3,000 to do the work. My information concerning the risk is undoubtedly correct. He was to get nothing if he did not succeed in the undertaking. The story that he was to get forty per cent. of the value of the boat was somewhat incorrect.

CANADIAN IRON ORE.

Following is an extract from the forthcoming report of Professor C. R. Van Hise:

The Vermillion iron bearing series has been traced by us to Hunter's Island. Thence these rocks have been mapped by the Canadian survey as extending first in a northeasterly and then in an easterly direction to the Kaministiquia river, and thence eastward to the Keweenawan rocks west of Lake Nipigon. Another great belt of iron bearing rocks with various ramifications has been traced by the Canadian survey from Rainy Lake eastward to the Canadian Pacific Railway and to Lac Des Mille Lacs. In this belt occurs the so-called Atikokan range, in which large deposits of iron ore are said to outcrop.

East and north of the east half of Lake Superior various areas of iron bearing rocks are also found. One or more belts are said to extend east from Lake Nipigon. A belt is found adjacent to the Black and Pic rivers. Several belts of iron bearing formation have been found in the Michipicoten district.

At the present time the only one of these districts which is an ore producer is the Michipicoten. While this district has not been connected areally and structurally with any other area in the lake region, the likeness in the character of its rocks and the succession to the Vermillion district leaves little doubt in my mind that the two districts are in most essential points parallel. In the Michipicoten district the basement rock is a greenstone, showing the ellipsoidal structure on the great scale so characteristic to the Ely greenstone of the Vermillion district. Also with its greenstone are various other mashed igneous rocks, including porphyries. The iron-bearing formation in many essential respects resemble that of the Vermillion district. It contains substantially all the varieties of material in the iron formation of the Vermillion district, and in addition great quantities of pyritic quartz rock. On the bluff back of the Helen mine and at many other places iron carbonate is abundant. Near the Helen mine Mr. Marriam reports this carbonate as containing 19 to 37 per cent. of metallic iron. At the present time the iron formation has been developed only at the Helen mine. Here a good body of high grade hematite has been shown by stripping to extend in considerable areas to the rock surface. In 1900, the first year of shipment, 62,000 tons were shipped. Whether or not the Michipicoten district will be a great producer in the future cannot be told, of course, in advance of development.

EARNING CAPACITY OF LARGE SCHOONERS.

"As bearing on the money making abilities of the large schooners now generally used in the coasting trade," says the Commercial Bulletin, of Boston, "some figures which have been compiled by Mr. Frank N. Tandy, general marine agent of this city, will be of interest. Mr. Tandy has taken the statements of four large schooners, two four-masters and two five-masters, which have been used in the Atlantic coast trade, and in a very full table clearly shows that vessels of this type are capable of earning, even when freight rates are as low as they are at present. Vessel No. 1 made twelve voyages, consuming 512 days to date. It paid dividends of $16 to $84 per trip on each sixty-fourth share. the total for the twelve trips figuring up $442 per 1-64 or 38.8 per cent. of the cost of the ship in that time. This vessel cost $72,960; her gross tonnage is 1,904, and her carrying capacity 3,000 tons. The three other vessels from whose statements data are compiled paid from $12 to $100 per 1-64 each trip, and the average for the fleet shows a dividend of $33 per 1-64 each trip. and a yearly profit of 27.5 per cent. on the investment. The net earnings have so far averaged 42.9 per cent. of the gross receipts and 18.9 per cent. of the total cost of the vessels has so far been paid."

MUCH criticism has recently been leveled at the methods followed by custom house inspectors in their examination of the baggage of travelers from foreign countries when they arrive in United States ports. But from the statements made by Secretary Gage, in an article in the December number of the North American Review, entitled, "Customs Inspection of Baggage," it is evident that the new system inaugurated by him has more than justified itself. There are now no such discriminations between passenger and passenger as practiced when "the courtesies of the port" were shown to favored individuals.

MORE SHIPBUILDING.

The American Ship Building Co. has this week closed contracts for two more steel cargo steamers, for delivery in August next.

One of the steamers is for Capt. John Mitchell and others and the other is for the Etna Steamship Co., of which Capt. Mitchell is general manager. This order makes thirty-six vessels the American Ship Building Co. has under contract. The general dimensions of the new ships are the same as the steamer H. C. Frick of the Mitchell fleet, but they will not have as much power.

They will be 436 feet over all, 416 feet keel, 50 feet beam and 28 feet molded depth. They will have triple expansion engines with cylinders 22, 35 and 55 inches with 40 inch stroke. Each steamer will have two Scotch boilers 13 feet 2 inches in diameter and 11½ feet long and they will be fitted with the Ellis & Eaves induced draft. The boats will be built at the Lorain yard and they will cost $300,000 each.

This makes four steamers of the same size that Capt. John Mitchell has ordered this year. The contracts for the first two boats were closed some few months ago. They are being built at the Cleveland yard and will be ready for business at the opening of navigation next spring. The four steamers will cost upwards of $1,000,000.

STATISTICAL REPORT OF LAKE COMMERCE.

THROUGH CANALS AT SAULT STE. MARIE, MICHIGAN AND ONTARIO, FOR THE MONTH OF NOVEMBER, 1901.

EAST BOUND.

Articles.	U. S. Canal.	Canadian Canal.	Total.
Copper, net tons	14,009	25	14,034
Grain, bushels	8,439,172	443,300	8,882 472
Building stone, net tons	3,200	500	3,700
Flour, barrels	883,350	158,819	1,042,169
Iron ore, net tons	1,575,186	76,279	1,651,465
Iron, pig, net tons	3,643	4 0	4,043
Lumber, M. ft. B. M	127,618	1,155	128,773
Silver ore, net tons	....	....	....
Wheat, bushels	10,933,085	2,415,250	13,348,335
Genl. Mdse., net tons	9,362	4,667	14,029
Passengers, number	391	1,292	1,683

WEST BOUND.

Coal, hard, net tons	122,471	15,025	137,496
Coal, soft, net tons	346 486	36,923	383,409
Flour, barrels	....	....	....
Grain, bushels	....	....	....
Manf'd iron, net tons	21,943	16,690	38,633
Salt, barrels	31,838	15,300	47,138
Genl. Mdse., net tons	51,669	18,635	70,304
Passengers, number	240	1,211	1,451
Freight:			
East bound, net tons	2,449,712	187,585	2,637,297
West bound, net tons	547,345	89,559	636,904
Total freight, net tons	2,997,057	277,144	3,274,201
Vessel passages, number	1,774	452	2,226
Reg'd tonnage, net tons	2,658,198	252,642	2,910,840

Compiled at St. Mary's Falls Canal, Michigan, under direction of Lieutenant-Colonel G. J. Lydecker, Corps of Engineers, U. S. A. Joseph Ripley, Assistant Engineer and General Superintendent.

Admiralty—Collision—Anchorage Ground—New York Bay—Smoke—Fog.—A steamer passed the Narrows and came into New York Bay at night without a pilot, and came to ancher considerably to the east of the anchorage grounds fixed by the Secretary of the Treasury, which were marked by buoys; the master not knowing the true boundaries of the grounds, though the rule had been in force since 1888. A tug and tow were passing out, and the steamer was not seen by the tug until she was within 300 feet from her, when the steamer was discovered straight ahead. The tug then endeavored to avoid collision, and passed about 150 feet to the east of the steamer, which was struck by the tow. The night was clear, except for patches of fog and smoke, which obscured view of vessels but for a few miuutes. The steamer's anchor light was visible at times at least from one to two miles while the tug was slowly approaching her. Held, that both steamer and the tug were at fault for the collision; the steamer in anchoring outside the limits of the anchor grounds, and the tug in not keeping a proper lookout, and that the damages and costs should, therefore, be divided. The James D. Leary, 110 Rep. Fed. (U. S.) 685.

NOTES.

DIXON'S graphite is being used extensively with oil as a lubricant on high-speed engines with great success. There is no limit to the uses this valuable article can be put to.

COMMANDER R. CLOVER, U. S. Naval Attache, at London, is coming on a short trip to the United States, bringing with him for the inspection of the Navy Department an invention for controlling torpedoes by wireless telegraphy. The inventors' experiments show that torpedoes not only can be steered by etheric waves, but can be stopped, started, and fired at will by means of this agency.

WE have received the following announcement: "It is with the deepest sorrow that the Directors of The Safety Car Heating & Lighting Co. announce the death of their esteemed President, Arthur W. Soper, at New York City, Sunday, December 1st." Among our readers the deceased will be better known as the president of the Gas Buoy Co., and one of the finest men that ever lived.

ABOUT $100,000 is the amount involved in the contract has made with the Eastern Shipbuilding Co., of New which the Lidgerwood Manufacturing Co., of New York, London, Conn., to install eighty ship winches on the two big Pacific liners now under construction at these yards. The winches have capacities ranging from 3,000 to 14,000 pounds and each winch is to be operated by electricity.

THE total number of vessels on the register books of the Dominion December 31, 1900, was 6,735, measuring 659,534 tons register tonnage, being an increase of 37 vessels and a decrease of 19,818 register, as compared with 1899. The number of steamers on the registry books on the same date was 2,101, with a gross tonnage of 293,096. The number of vessels built and registered in Canada during 1900 was 297, measuring 22,329 tons register tonnage.

THE Christmas number of the Cosmopolitan Magazine contains an article descriptive of the earlier sea fights of the American navy, dating back to the first fleet of thirteen vessels that were ordered by the Continental Congress shortly after the battle of Bunker Hill. In glancing over this brief history, which is fully illustrated, we find that as early as 1632, twelve years after the Pilgrims landed, a hundred-ton vessel was launched on the Mystic River, Conn.

PRACTICAL MARINE ENGINEERING," by W. F. Durand, Professor of Marine Engineering at Cornell University, author of "Resistance and Propulsion of Ships," is a work from the pen of a high authority. The book here offered to those interested in steam engineering as applied to marine work is intended to be thoroughly practical, and is designed to do something more than to merely fit an engineer to secure his first papers, or to squeeze through an examination for higher papers. Published by Marine Engineering, New York, at $5.

THE next International Navigation Congress will be held at Dusseldorf, Germany, June 29 to July 6, 1902. There will be two sections, one for inland, the other for ocean navigation. In the former the following will be discussed: Hoisting machinery; coal transportation on canals; dams; mechanical starting of vessels; the utilization of water power of locks for generating electricity. In the section for ocean transportation, discussion will touch: The use of lighter ships on the seas; the construction and maintenance of dry and repair docks; the construction and cost of dredging machinery.

THE NATIONAL GEOGRAPHIC MAGAZINE for November, 1901, has the following note: "The Antarctic, carrying the Swedish South Polar Expedition, sailed from Gothenburg October 16. Professor Otto Nordenskjold, the leader of the party, states that they will proceed to Buenos Ayres and Terra del Fuego and then push as far south as is found possible. When winter comes on a party of six under Nordenskjold will land and spend the winter making scientific observations. The Antarctic meanwhile will return to Terra del Fuego in charge of one of the scientists of the party, who will conduct researches in that little explored country. Thus, while the Germans are exploring the regions south of the Indian Ocean and the British that south of the Pacific Ocean, Dr. Nordenskjold and his party will be at work in the regions south of the Atlantic Ocean. With these three well equipped expeditions in the antarctic regions and the numerous expeditions actively engaged in the far north, we may reasonably hope that our knowledge of geography and meteorology will be materially advanced."

THE LACK OF A MERCHANT MARINE.

CLEVELAND, OHIO, Dec. 9.

To the Editor of The Marine Record:

At the close of the civil war a very small portion of our once glorious merchant marine was afloat. What had not been destroyed was placed under a foreign flag, or sold to other nations. Consequently our ensign was very seldom seen abroad or on old ocean.

A few of our enterprising shipbuilders undertook the task of re-building our merchant marine, but found themselves handicapped by the foreign iron ship industry. During the absence of wooden ships from the sea, the iron craft had been brought to the fore by the fact that they delivered a cargo in first-class shape, and therefore obtained the preference of a charter to the disadvantage of the wooden ship.

As we knew nothing about iron shipbuilding, and as no inducement was offered by our government to any of our citizens to engage in the same, and as a foreign-built iron ship could not obtain American registry without a special act of Congress, all the carrying to and from our country was done on foreign bottoms.

We had an abundance of wooden shipyards, skill, and the material, but a wooden ship, costing one-third more than an iron ship, could not compete with an iron-built craft for the following reasons: A well-built wooden ship will only class for twelve years A1 with a star. At the end of that time, one-third of what she originally cost must be laid out on her before she can be re-classed at the same rating. When the second twelve years has passed by, a new rudder post must be placed in the ship before she can again be re-classed, which virtually means that she must be rebuilt.

As I said before, she costs one-third more than an iron ship, her rate of insurance is greater, and the same will hold good with the insurance on her cargo. She will not deliver a first class cargo in as good condition as an iron ship; therefore an iron ship has the advantage all the way through.

On the other hand, an iron ship at less first cost will class A1 100 with a star, for 35 years, in the English Lloyds. Insurance on ship and cargo is less, she obtains the benefit of a charter over and above a wooden ship, delivers her cargo in better shape, and, barring accidents, no repairs are needed to her hull, with the exception of keeping her bottom clean. There is always more or less water in the timbers of a wooden ship, which is constantly evaporating, and which is absorbed by the cargo, to the detriment of the same. For an illustration I will say that a ship taking on board 3,000 tons of wheat in San Francisco will deliver from 150 to 200 tons more in Liverpool than she took on board, which gain is through the moisture absorbed. Before this was thoroughly understood, the ship was benefitted thereby.

The writer has seen the flower of America's merchant marine rotting behind Goat Island in San Francisco Bay, awaiting charters that never came, while an iron ship that had been chartered at Liverpool to-day for San Francisco would be chartered at the latter port to-morrow for her return trip, and that before she had taken on board one pound of her outward-bound cargo.

We can build, man, and sail iron ships to-day equal to any nation, but our government is backward in giving us any encouragement in that line, while other nations encourage ship building to the extent that they can afford to carry our merchandise to and fro cheaper than we can.

I can in part account for the above lack of encouragement by stating the fact that our interior is so much more dense than our exterior that the interior rules in both Houses of Congress. And they know nothing whatever about marine affairs, or the relation a merchant marine holds to the well-being of a nation.

The above argument will hold good as to the action of the interior in its successful endeavor to block an increase to our navy for thirty years after the close of the civil war. The action and results of our navy in the far East, and approximate local waters, removed the film from the eyes of the interior to the extent that the navy can have anything it asks for without question.

We have a fleet of war ships to be proud of. Give them a merchant marine to protect by encouraging the ship building industry. Our flag, flying over an American bottom, is a curiosity abroad and on the high seas. The stars stop their blinking, so fixed is their gaze of astonishment whenever an American ship comes within the scope of their vision.

In conclusion will say that a majority of the inland representatives in Congress have never seen salt water. They cannot tell a full-rigged ship from a Cape Ann dory; and if they were shown a good-sized barnacle, they would pronounce it a new species of summer squash and flee to the Secretary of Agriculture for seed.

J. L. PILLING.

NEW YORK STATE CANALS.

NEW YORK, Dec. 7., 1901.

To the Editor of The Marine Record:

Referring to your editorial of November 28th, "New York Ship Canals," and your endorsement of the Railway and Engineering Review of Chicago, permit me to say that I think you are in error. Indeed the article referred to displays much ignorance—"The largest ocean steamers" are those connected with the regular lines. These never have been, and never will, be able to go to the railroad elevators to receive grain cargoes however deep the water may be at such elevators. They cannot afford the time. The deeper water would accommodate the tramp steamers chartered for grain, and as such vessels are to-day far from being "the largest," most of them can go to the elevators now. But we have almost no cargo export grain trade to-day at New York. That has gone from us. On an average about ninety per cent. of all grain exported from New York goes to make up parts of cargoes in steamers short of other freight when sailing time is near, amounting in round figures to 115,000,000 to 125,000,000 bushels per year. Hence the theory of the Chicago Review that the canal is at a disadvantage is incorrect. The fact is that the New York Central Railroad uses canal boats and barges to transfer its grain destined for export. It goes from the cars to its elevators, thence from elevator to canal boat or barge, thence towed to the side of the vessel or ocean liner and transferred again to its hold. The New York Central Railroad keeps large quantities of grain constantly on hand in canal boats and barges ready at a moment's notice to be towed to the side of any of the big ocean liners requiring freight to fill out its cargo when about ready to sail. Here are three transfers and there are only three by canal and lake from the lake port to the steamer's hold. The reason the rail route is preferred is not on account of either the transfers or the time of trip by water. The time is greatly exaggerated and water shipments frequently beat the railroad. The preference is more often given to the railroad because the bill of lading is better security than by canal. There are no extra expenses from the transfers, and the water is on the average about one-sixth of the rail rate. The New York canals are not an active factor to-day because they are antiquated and also because of less desirable bills of lading. With the proposed improvement of 1,000-ton barges, the rate of carrying on the canal will fall from 87 cents per ton as at present, between Buffalo and New York, to 26 cents per ton, or 52-100 mill per ton mile. With a canal capable of this low rate, and the organization of responsible companies operating canal lines and giving bills of lading which will be recognized as safe, and the reduction of elevator charges which are coming, the old Erie Canal and the Port of New York will command this trade in the former proportion.

Yours truly,

FRANK S. GARDNER.

ONE of the largest dry docks in the United States was opened at Baltimore, Md., on November 26, with due ceremony. The new dock is the property of the William Skinner & Sons Ship Building & Dry Dock Co., and is capable of docking any vessel of 600 feet in length and 70 feet beam, with a draught of 22½ feet. The pumps have a capacity of 105,000 gallons per minute when all three are in operation, and will empty the dock in an hour and a half. The principal dimensions of the dock are as follows: Length over all, 628 feet; width on floor, 62 feet; width on top of keel blocks, 69 feet; width at top of dock, 125 feet; entrance at bottom, 60 feet; entrance at top, 80 feet; depth of water on sill at low water, 22½ feet; depth of water on sill at high water, 25 feet. Among the special guests present were Assistant Secretary Frank W. Hackett, Rear Admiral M. T. Endicott, Rear Admiral Francis T. Bowles, U. S. N., and Captain C. F. Shoemaker, of the Revenue Cutter Service.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Sales.—Delay in Delivery.—Damages.—Action.—Plaintiffs contracted to sell a piece of machinery, to be delivered by them on board a vessel, and they purchased such machinery of defendants. In action for damages for delay in delivery, plaintiff's bill of particulars demanded a sum for demurrage of the vessel. Defendants did not deny that they knew the machinery was to be delivered on the boat, and that it was held for that purpose, and evidence as to the damages by reason of the demurrage was received without objection. Held, that an award of damages for the demurrage would be sustained. Miner et. al., vs. Blume et. al., 72 N. Y., Supp. 320.

Collision—Schooner and Tug—Violation of Rules.—A schooner was coming down North river crossing on the port tack, with a strong tide, while a tug with a tar float on her port side was going up about 600 feet from the New Jersey shore. When in front of the tug, and 600 feet distant, the schooner went about, in violation of the rules; there being ample room for her to continue on the port tack until she had crossed the course of the tug. Before she acquired headway after coming about she was carried down by the tide and came in collision with the float. The tug reversed with all speed, when the schooner went about, for it appeared that the bow of the float swung somewhat to starboard. Held, that the only fault possibly attributable to the tug was in failing to starboard her wheel, which was not culpable, since she acted in extremis after having been placed in a perilous position through the sole fault of the schooner, and that she could not be charged with liability for any part of the damage to the schooner. The Bayonne, 110 Fed. Rep. (U. S.) 462.

Snipping.—Construction of Charter.—Demurrage.—A charter for a steamer to carry a cargo of sugar required her to proceed with her cargo to a designated port of call in the United States. It allowed fifteen days for loading and for awaiting orders at the port of call, but all such days were consumed in loading. It provided that legal holidays should not count as lay days, and required the owners or master to report to the charterer by telegraph the arrival of the steamer at the port of call. She arrived there on Saturday afternoon, which was a legal half holiday, both at such port and the charterers place of business. Notice of her arrival was sent the charterer; but, its office being closed, it was not received until Monday morning, when it was at once acted on. Held, that under the provisions of the charter notice of arrival could not be given, which the charterer was bound to receive and act upon, until Monday morning, and that it was not liable for demurrage during the intervening time. Perry et. al. vs. Spreckles' Sugar-Refining Co., 110 Fed. Rep. (U. S) 777

Shipping.—Loss of Goods in Transshipment.—Negligent Loading of Lighter.—A shipment of rice was made from Liverpool under bills of lading requiring it to be transported to New York, and there delivered to W. & Co., and by them to be transshipped by a designated line of steamers, and delivered to the consignee in Havana. W. & Co. received the rice, and contracted with a lighterage company to transfer the same to the Havana steamer. That company chartered a lighter, together with a lighterman, who was furnished by the owner, and who engaged the stevedores and superintended the work. Through his negligence the lighter was so loaded as to be top-heavy, and when discharging capsized, and the greater part of the rice was lost. Held, that W. & Co., the lighterage company and the owner of the lighter were each liable for the loss,—W. & Co., on their contract to safely transship, the lighterage company on its undertaking as carrier to lighter the goods, and make proper delivery, and the owner of the lighter for the negligence of his servant, and its obligation to indemnify the lighterage company as carrier; on which ground it was cited into the cause as defendant by W. & Co., under the fifty-ninth rule. Smith vs. Booth, et. al., 110 Fed. Rep. (U. S.) 680.

Shipping—Violation of Neutrality Laws.—A time charterer of a British steamer on the opening of the Spanish-American war, subchartered her for use as a newspaper dispatch boat; the subcharter providing that she should carry only lawful merchandise. She was at all times in charge of officers and crew supplied by the owner. She took on board a number of reporters, with supplies, and cruised off the south coast of Cuba among the American naval fleet, making occasional voyages to Jamaica and other points to send dispatches, and on other lawful business of the subcharterer. On her return from one of such voyages, she was stranded, solely by reason of negligent navigation, and sustained great injury. Previously, by the conjoint action of the master and reporters on board, several small services of accommodation and courtesy had been rendered to officers of the American fleet and to its hospital ship, such as taking letters to mail, supplying ice to the hospital ship, and on one occasion transporting a small quantity of provisions to some ununiformed Cubans on shore. Held that, conceding such acts to have been in violation of the neutrality laws, being unauthorized by the sub-charter and unknown to the charterer or sub-charterer and having no connection with the stranding of the steamer, they did not render the charterer liable for the loss. The Ely, 110 Fed. Rep. (U. S.) 563.

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CLEVELAND, O., DECEMBER 12, 1901.

THE NEW SUBSIDY BILL.

Senator Frye has introduced the new ship subsidy bill. It differs in form from the subsidy bill of the past two sessions. It is divided into four titles and fifteen sections.

The sections under the title "Ocean Mail Steamships" are devoted to amendments to the ocean mail act of 1891. The postmaster general is required to consider the national defense and the maritime interests of the United States, as well as the postal interests in providing for the transportation of American ocean mails.

The present limit of ocean mail contracts, ten years, is increased to fifteen years. The Frye bill provides seven distinct classes with a rate of $6 to twenty knot steamers increasing from 8,000 to 10,000 tons the minimum size; $3 for 16 knot steamers, providing the size is increased from 5,000 tons, the present minimum, to 8,000 tons. The proposed maximum mail rates per gross ton per hundred nautical miles are: over 10,000 tons, 20 knots, 2.7 cents; 19 knots, 2.5 cents; over 5,000 tons, 8 knots, 2.3 cents; 17 knots, 2.1 cents; 16 knots, 1.9 cents; 15 knots, 1.7 cents. Over 2,000 tons, 14 knots, 1.5 cents.

The second title, "General Subsidy," contains the general subsidy for all vessels, steam or sail, which are not under mail contracts. This general subsdy is uniform, one cent per gross ton per 100 nautical miles for not exceeding sixteen entries in one year.

To promote the building of new ocean vessels an additional allowance of one-fourth of a cent per gross ton is made for five years.

Any vessel, to receive the general subsidy, must carry mails, if required, and must train in seamanship or engineering one American youth for each one thousand tons, the vessel to be at the service of the government if required for defense.

Any vessel to receive subsidy must be class A1 and at least one-fourth of the crew must be Americans.

The bill provides an annual bounty of $2 a ton for deep sea fishing vessels and of $1 a month for American citizens when engaged in deep sea fisheries; that a vessel shall receive only one form of subsidy, and that a vessel which has received a subsidy shall not be sold to a foreigner except by consent of the Secretary of the Treasury.

The bill does not provide American registry for foreign ships owned by Americans. The last subsidy bill provided one and one-half cents per gross ton for each 100 nautical miles, not exceeding 1,500 miles sailed, and one cent per gross ton for each additonal 100 miles sailed; vessels to carry from United States ports at least 50 per cent of their capacity. Steam vessels suitable for carrying the mails, over 2,000 gross tons, were to have the following compensation in addition to the above rates:

Twelve knots, five-tenths of one cent per ton; 14 knots, one cent per ton; 15 knots, one and one-tenth cents per ton; 16 knots and over, one and two-tenths cents per gross ton.

Vessels of over 4,000 tons, 17 knots, one and four-tenths cents per ton; 18 knots, one and six-tenths cents per ton; 19 knots, one and eight-tenths cents per ton.

Vessels over 10,000 tons, 20 knots, two cents per ton; 21 knots, two and three-tenths cents per ton.

Foreign built vessels admitted to American registry entitled to 50 per cent of the above rates. The total compensation paid out in any one year should not exceed $9,000,000, deductions to be made pro rata.

Provision was made for a certain number of foreign vessels to secure American registry. Contracts could be entered into for the building of vessels in the United States of class A1 type to receive the subsidy. Provisions for use of vessels by the United States in case of war, and that a portion of the crews should be American, were similar to the provisions of the new bill.

TO RETURN THE GUARANTEE.

It seems probable that William J. Conners, the Buffalo promoter of the great transportation and elevator scheme that was to divert a large share of the business of the Great Lakes to the seaboard via the Canadian canals, will finally receive his forfeit deposit of $50,000. His scheme collapsed, but he has made a demand for the return of the deposit and he is likely to get it. Mr. Connors, in conpany with his attorney, Speaker Brodeur, called at the harbor office on Wednesday. Mr. Conners stated that he had come after his $50,000. He expressed the conviction that under no circumstances would a process of law give the harbor board the right to keep the money. What he wanted, however, was to get it quickly, without having the matter tied up in the law courts for perhaps two or three years.

At a subsequent meeting of the board of harbor commissioners a letter was read from Mr. Blair, dominion minister of railways and canals. Mr. Blair suggested that Mr. Conners' money be returned to him. Mr. Blair further stated that he had seen Minister Tarte regarding the matter and that that man had said that he had no objection to Mr. Conners receiving back his money. Mr. Tarte further said, however, that he was not interested in the matter, as it did not come within his jurisdiction, the affair being to a certain extent under the control of the minister of railways and canals.

A number of the commissioners strongly opposed the idea of returning the money to Mr. Conners, and finally it was decided to have a report from the board's lawyers.

A REVISED BILL OF LADING.

It is now almost a certainty that the matter of changing the forms of the present bills of lading in use on the lakes will be called to the attention of the Lake Carriers' Association at the annual meeting to be held in Detroit about the middle of January.

The injustice of detaining vessels for as much as a week at a time and not allowing the owners suitable compensation for the use of their property has been in the minds of owners for several years, but during the past season it has come to the front more forcibly than ever before, and there is a well defined movement on foot to get the owners together and demand a change and all that is now lacking is a leader who will take the stand at the annual convention.

The time boats have been held in port waiting to unload or load cargoes has, in more than one instance amounted throughout the season to an entire trip, and there are cases where boats have lost more than one trip on account of the poor dispatch afforded them.

At present on account of the form of the bills of lading the owners are helpless and can do nothing, but the time has come, it is claimed, when a stand must be taken and the owners intend to assert that they have some rights which should be respected and that when their vessels are held in port they should be paid proportionately to the earnings were the boats given quick dispatch.

It is considered that whatever will be done by the vessel owners will be conservative and their argument will be that there has been a great injustice done them by holding boats in port and an effort will be made to correct the evil without taking any radical steps and it is thought that when the matter is presented to the shippers and fair treatment asked there will be no difficulty in securing concessions in the way of a revised bill of lading or an understanding as to compensation for time boats are held up waiting for cargoes or to unload.

WINTER NAVIGATION OF THE ST. LAWRENCE.

A Quebec special that European capital is about to be employed in an attempt to accomplish the winter navigation of the St. Lawrence, which is at present closed by ice for five or six months of the year. The main mover in this matter is W. Nordin, head of the timber house of O. W. Nordin & Co., Paris, who has satisfactorily mastered the difficulties attending the winter navigation of the Baltic. He visited Quebec last winter, and has again returned to resume the study of the situation. The vessels employed by the Messrs. Nordin for the winter navigation of the Baltic are of special construction, with raised bows heavily sheathed with metal which press down upon as well as cut out the ice, which attains a thickness of several feet in the Baltic. In the St. Lawrence, on the other hand, the river below Quebec is never frozen all across, the danger to winter navigation consisting in the bergs and floating fields of ice. Mr. Nordin's chief aim in striving to extend the season of navigation from the St. Lawrence is to facilitate the shipments of his products to Europe all the year round, without having to bear the additionaly cost in winter of sending them by rail to an American port. If he ships by way of Saguenay he will have to cut out a great depth of ice in that river, but not more than in the Baltic. He will scarcely attempt to keep the St. Lawrence clear of ice above Quebec, for between that city and Montreal the ice sometimes attains a thickness of nearly thirty feet, grounding on the river bed.

One of the greatest difficulties heretofore experienced by the many different persons who have proposed the winter navigation of the St. Lawrence has been that of insurance. Though occasional trips have been made in safety to the lower St. Lawrence in the winter months, none of these has been attempted by large and valuable ocean-going steamers, for the underwriters refuse to insure them because of the supposed perils. It will, therefore, be necessary for the syndicate of Mr. Nordin to become its own underwriters. The importance of this scheme, not only to Quebec, but also to the whole of Canada at the present time, arises from the fact that Quebec proved last summer that she is on the shortest and most direct route for the shipments of grain from the North-West to Europe, and is chiefly handicapped by her inability to continue these shipments during the winter season.

WRIT DENIED.

The United States Supreme court at Washington has denied the petition for a writ of certiorari in the suit growing out of the collision between the steamers Florida and George W. Roby in Lake Huron in May 1897. The district court at Detroit awarded the owners of the Florida $59,000 damages and the court of appeals held both vessels at fault. The owners of the Roby applied for a writ and this decision sustains the Detroit court.

The Northwestern Fuel Co., of Milwaukee, the Wisconsin part of the general company, has filed amended articles of incorporation at Madison by which the capital stock of the corporation is increased from $25,000 to $2,500,000. This was done as a result of the recent large investment by individual stockholders of the Fairmount Coal Co. of West Virginia, one of the largest concerns of the kind in the coal districts of the Virginias, and also for the reason that the Northwestern Fuel Co. is now erecting at West Superior, Wis., one of the largest coal docks in the world, which will have a capacity of 2,000,000 tons and which will cost upwards of $700,000. The fact that the West Virginia company has become largely interested in the Northwestern will not in the lest change the personnel of the latter, but it will increase its western docks at various points, as the Fairmount company will also be interested in using them instead of building docks for itself.

A MERCHANT MARINE WANTED.

Walter J. Ballard, of Schenectady, N. Y., wrote the following letter to the editor of the *Troy Daily Times*, which is a sufficiently clear statement of the facts as to prove the great need we have of securing a large ocean marine for the prosecution of trade to foreign lands, and especially to those countries lying to the south of us, whose imports should in the largest measure come from the United States.

"The commerce of the United States with its southern and northern neighbors is an interesting study, especiallly to those of us who are anxious that we get all the benefit due us from our policy of trade expansion. That we are not yet getting our just dues in that particular every student of national affairs is bound to admit. With the English-speaking people on this continent our commercial relations have rapidly grown, but with those of another language the results are not nearly so satisfactory. To British North America we supply fifty-two per cent. of its total imports for consumption, to Mexico forty per cent., to the Central American states about thirty-five per cent., to Venezuela twenty-seven per cent. These countries all border on the Atlantic. With those bordering on the Pacific our trade is not nearly as satisfactory as is shown by even the foregoing limited schedule of results.

"Turning to Central and Southern America we find that the countries bordering on the two oceans take eighty-seven per cent. of the total imports of all South America, and thirteen per cent. is taken by those bordering on the Caribbean Sea. Brazil imported in 1899 $105,000,000, of which only ten per cent. was bought from us; Uruguay and Paraguay, $26,000,000 with only seven per cent. for our share; Argentina, $112,000,000, and only ten per cent. ours. Then follow Chile, $38,000,000; Peru, $8,500,000; Bolivia, $11,600,000; Ecuador, $7,000,000, in all of which we only shared for about ten per cent. The northern coast, fronting on the Caribbean Sea, imports $36,000,000, with twenty-five per cent. ours; the eastern coast, fronting on the Atlantic, $275,000,000, and the Pacific coast, $60,444,000, in each of which our proportion is less than twenty-five per cent. Summed up, these figures represent about $404,000,000, of which our share was only $71,000,000.

"This state of affairs is an anomaly in view of the large purchases we make from these Central and South American countries. We are Brazil's largest customer for coffee and rubber. From Argentina and Chile we buy largely of wool and hides. From the other South American countries we buy heavily of the various tropical products, and our purchases continually increase. Altogether we bought from these countries in the fiscal year ended June 30, 1901, goods to the value of $110,329,677, while our sales to those same countries only amounted to $41,770,888—less than one-half our purchases. These people south of us use freely many classes of goods which we can readily supply, such as cotton goods, clothing, machinery, manufactures of iron and steel, furniture, medicines, coal, mineral oils, flour, provisions and many other articles.

"We must not lose sight of the fact that, following the routes of the present steamship lines, the sole means of communication, the markets of Europe are practically as near to these countries as are the markets of the United States. This is a sweeping statement, but it is easily provable by examining the maps. The far-east point of South America is 2,600 miles east of New York, and the sailing distance from that point to New York is greater than to the cities of southern Europe, and only slightly less than to England and Germany—our great commercial rivals. We must also remember that three-fourths of the steamships entering South American ports are British built, British owned and British navigated; that one-fourth of the world's ocean trade is absolutely controlled by thirty large companies, only one of which is American—The International Navigation Company, whose tonnage is barely a butterfly's wing weight against the 5,616,000 tons of the other companies; that England has built in the last ten years 4,638 steel steamers with a tonnage of 9,793,000 tons, against our 465 steel steamers with a capacity of only 743,000 tons.

"From the foregoing figures and facts it is evident that we are getting better results in sales to those countries bordering on the Caribbean Sea between whose ports and those of the United States there is frequent steamship communication than with the other countries with which our steamship communication is not so frequent and is often intermittent. Why is this state of facts allowed to exist and grow worse from year to year? Why does not Congress see the advantage and pass such a ship subsidy bill as shall induce our shipbuilders to build, and our shipowners to operate, a sufficient increase of our merchant marine to attract and cultivate these enforcedly neglected business opportunities? Why will some of our legislators persist in blocking the way of the construction of an isthmian canal, by which the long delays of a voyage round Cape Horn will be avoided and our Pacific South American trade developed?

"The conclusion is clear: We want a large increase of our merchant marine, and we want it right away. This we cannot get in any reasonable time, unless Congress gives us a sufficient ship subsidy bill and the isthmian canal. Congress meets in December, and its paramount duty is to give this pressing necessity immediate attention.

PIPE COVERING TESTS.*

These pipe covering tests were planned with the object of ascertaining the efficiency, both comparatively and absolutely, of some of the leading coverings as ordinarily manufactured, sold, and applied. I mean by the term "efficiency," simply that efficiency which measures the degree to which the covering serves to prevent radiation of heat from the outside of the pipe, or what is the same thing the degree to which the covering prevents the condensation of steam in the interior of the pipe.

The size of pipe selected for the leading tests is the ordinary standard two-inch steam pipe; and the length selected, 100 feet for each pipe. That the effect of size of pipe on the results might be studied and exhibited, and at the same time the work brought into line with the practice of high pressure power plants, especially as regards much of the engine and boiler room piping, two 10-inch pipes each 35 feet in length form a part of the 150 lb. section of the apparatus.

The main object so far as the getting of the principal data is concerned is to properly secure and measure the water formed by condensation of the steam in the pipes. Precautions must be taken first to insure a supply of steam to the pipes free from water at the start:—in other words, dry steam; second, suitable inclination or pitch of the pipes to insure the drainage of all the water formed by condensation to the drip-ends or the points where it is discharged into the collecting casks; third, the thorough venting of the drip-ends of the pipes to prevent the collection of air in the interior, and fourth, the proper collection and measurement of all the water discharged. Starting with dry steam in the headers which are protected by hair, felt and canvas, a supply of dry steam to the pipes is secured by connecting to the top of the header and taking the steam in each case through a 2-inch angle valve. The proper drainage of the water formed by condensation in the test pipes is secured by pitching them from the inlet end to the discharge end. The 2-inch pipes have a total drop from one end to the other of 16 inches. The 10-inch pipes have a total drop of 6 inches.

So much for the leading features of the plant. Taking up next the coverings themselves; these, I would say first, were bought in open market, and I believe them to be what they were by this method of purchase intended to be, samples of the coverings which are ordinarily supplied by the various manufacturers in the ordinary course of business.

The lowest rate of condensation obtained on any of the 2-inch coverings of the 80 lb. section has been a total for the entire pipe of 13.46 lbs. per hour, and the highest, 15.14 lbs. The lowest on any of the 2-inch coverings of the 150 lb. section has been 10.47 lbs. per hour, and the highest, 14 lbs. per hour. The lowest on any of the 10-inch coverings is 10.67 lbs. per hour total for the entire pipe and the highest, 15.93 lbs. All these figures apply to the average rate for a period of 7 or 7½ hours continuous run. (The minimum and maximum rates for each of the coverings tested are given in the appended table, together with the condensation in the bare pipes.)

The characteristics of the various coverings may be seen by an examination of the various samples attached to the different pipes.

*Paper read November 12, 1901, by George H. Barrus, expert and consulting steam engineer to mechanical engineers, architects and others, at the Manhattan railway power house, N. Y.

ORDER OF EFFICIENCY.

Two-inch Coverings, 80 lbs. Pressure.—1. Johns' Asbestocel; 2 New York Air Cell; 3. Carey's Moulded; 4. Johns' Moulded; 5. Gast's Ambler Air Cell.

Two-inch Coverings, 150 lbs. Pressure.—1. Johns' Asbesto-Sponge Hair Felt, 3 ply; 2. Johns' Asbesto-Sponge Hair Felt, 2 ply; 3. Asbesto-Sponge Felted (sectional); 4. K. & M. Magnesia (85 per cent. Carb. of Magnesia); 5. Asbestos Fire Felt (Navy Brand).

Ten-inch Coverings, 150 lbs. Pressure.—1. Johns' Asbesto-Sponge Felted; 2. K. & M. Magnesia (85 per cent. Carb. of Magnesia); 3. Asbestos Fire Felt (Navy Brand); 4. Watson's Imperial.

MINIMUM AND MAXIMUM RATES OF CONDENSATION PER HOUR FOR EACH OF THE COVERINGS TESTED.

	Minimum.	Maximum.
Two-inch Coverings, 80 lbs. Pressure—Length of Test Pipes 100 ft.:—		
Johns' Asbestocel	13.46	14.07
New York Air Cell	13.88	14.14
Carey's Moulded	14.18	15.00
Johns' Moulded	14.15	15.07
Gast's Ambler Air Cell	14.60	15.14
Two-inch Coverings, 150 lbs. Pressure—Length of Test Pipes 100 ft.:—		
Johns' Asbesto-Sponge Hair Felt, 3 ply	10.47	10.93
Johns' Asbesto-Sponge Hair Felt, 2 ply	11.21	11.29
Asbesto-Sponge Felted (Sectional)	11.20	11.57
K. & M. Magnesia (85 per cent. Carb. of Magnesia)	11.64	12.20
Asbestos Fire Felt (Navy Brand)	13.18	14.00
Ten-inch Coverings, 150 lbs. Pressure—Length of Test Pipes 35 ft.:—		
Johns' Asbesto-Sponge Felted	10.67	11.07
K. & M. Magnesia (85 per cent. Carb. of Magnesia)	13.00	13.64
Asbestos Fire Felt (Navy Brand)	14.00	14.64
Watson's Imperial	15.79	15.93
Bare Pipes:—		
2-inch, 80 lbs. pressure	55.75	60.30
2-inch, 150 lbs. pressure	71.78	72.20
10-inch, 150 lbs. pressure	105.9	112.
Temperature air of room (approx.)	50.	75.

LAUNCH OF THE EASTERN STATES.

The steamer Eastern States, the first of the passenger boats built for the new Detroit and Buffalo line, was launched successfully from the Wyandotte yard of the American Ship Building Co. on Saturday last. The new boat, which is the largest of her class on fresh water, will be completed and ready for business early next season. The new steamers which will leave Buffalo and Detroit every evening, will be scheduled to make about twenty-one miles an hour, which will cover the run of about 256 miles in a little over thirteen hours. They will be much larger than the steamer City of Erie of the Cleveland & Buffalo Transit Co.'s fleet, which is at present the largest side-wheeler on the lakes. They will be thirty-five feet longer than the City of Erie. In general appearance they will be like the C. & B. line steamers. They will not have the big walking beams and that will be about the only difference in the appearance of the boats. The steamers will be of the following dimensions: Length over all, 366 feet; keel, 351 feet; beam, 45 feet; breadth over guards, 80 feet; depth of hold, 19½ feet; draft of water, 12 feet. The machinery of each boat will consist of an inclined compound engine, having three cylinders. The cylinders will be 52, 72 and 72 inches by 7 feet stroke, indicating 5,500 horse power. Steam will be supplied by six cylindrical steel boilers, each 13 feet 6 inches long by 11 feet 9 inches in diameter, and having a total grate surface 10,275 square feet, and a total heating surface of 12,650 square feet. They will be fitted with the Howden hot air system. The consumption of bituminous coal will be 9,000 pounds per hour.

The paddle wheels will be equipped with feathering buckets. Each wheel will be 25 feet in diameter, and will have nine buckets, each 13 feet long by 4 feet wide, dipping, at normal draft, 5 feet. The speed calculated is twenty-one miles per hour.

The gross tonnage of the ships will be 3,100 and the net tonnage 1,600. There will be 212 main staterooms, and sleeping accommodations for close on to 1,000 persons. The number of passengers allowed on excursion permit will be 3,500. The cargo carrying capacity will be 500 tons, dead weight.

The big steel steamer Simon J. Murphy is in winter quarters at Manitowoc.

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CONSULAR REPORTS.

The new German monthly periodical, Russia and Germany, contains a long article concerning the commercial relations between Russia and the United States. It notes that although the trade between the two countries is not yet large, American enterprise has gained triumphs in another field in Russia. The transportation problems in the Asiatic possessions resemble those solved in the United States. American engineers have rendered valuable services in the Manchurian Railroad and the East Siberian line. In European Russia, also, the government is availing itself of their experience. The ice breaker Jermak, was modeled on those employed on the Great Lakes in the United States. An American has shown Russia how to dredge her rivers at a great saving of expense. The journal adds:

These facts show that American competition, even if today it does not figure formidably in the trade of Russia, will surely be felt in this rich country in the future. The advantages of the Americans must be offset by a new German-Russian treaty. The German is much superior to the American in adapting his goods and his modes of conducting business to the requirements of the Russian market.

RICHARD GUENTHER,
Consul General.

FRANKFORT, August 28, 1901.

I have been informed by the acting consular agent at Fiume, Hungary, that the Societa Fiumana di Costruzione Navale Howaldt has just finished one of the best and strongest floating drv docks ever built on the Continent. It is for the Russian Steam Navigation & Trading Co., of Odessa, and is now on its way, being towed by two steamers The voyage is expected to take at least thirty days.

It has a lifting power of 4,800 tons and can raise a vessel of this weight in two and one-fourth hours. Constructed in two parts, it has the advantage of putting only one-half into action, in case a smaller vessel is to be lifted.

One part is built in four pontoons, each 11 feet 1 3-16 inches high and 53 feet long, having a lifting power of 2,740 tons. The other part is built on three pontoons, each of the same dimensions, having a lifting power of 2,060 tons. The total length is 381 feet; width, 63 feet; width of walls, 8 feet 4¾ inches.

It is fitted with electric light and accommodations for office and cabin crew.

The construction was begun December 12, 1900, and finished August 18, 1901, employing 600 men a day. The laborers received from 60 to 80 cents a day, the mechanics from $1 to $2.

The exact contract price is unknown, but the dock is valued at about $403,000.

FRANK DYER CHESTER,
BUDAPEST, September 10, 1901. Consul.

Consul Monaghan, of Chemnitz, September 17, 1901, says: According to report, the North German Lloyd has decided to open a line from Bremen to Cuba, vessels sailing regularly every four weeks and touching at Habana, Cienfuegos, Manzanillo and Santiago de Cuba. Vessels begin sailing for Cuban ports about the middle of November of this year. From February, 1902, it is the intention of the line to have a bimonthly service. This is another example of Germany's endeavor to secure, not only markets in all parts of the world, but efficient and regular connections with the same.

Consul Kehl writes from Stettin, September 29, 1901, that the James Stevensen Aktien Gesellschaft, of Stettin, is interested in American coals, including anthracite, and has sent a representative to the United States with a view of opening up business relations. The Stevensen Co., he adds, is one of the largest fuel dealers in that section of Germany, importing nearly 250,000 tons per year from Great Britain.

Under the date of September 23, 1901, Consul Hill, of Amsterdam, says: Referring to my late report on the draining of the Zuider Zee. I have to state that the project has been withdrawn from the States-General by the new ministry, thus being disposed of probably for a long period The state of the Dutch budget renders such an undertaking at this time unadvisable; besides, the fall in the price of land has diminished the demand for new agricultural holdings.

STATEMENT OF THE VISIBLE SUPPLY OF GRAIN.

As compiled by George F. Stone, Secretary Chicago Board of Trade, December 7.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Buffalo	5,436,000	1,022,000	696,000	25,000	1,084,000
Chicago	6,928,000	5,390,000	1,063,000	1,101,000	6,000
Detroit	899,000	230,000	55,000	158,000	29,000
Duluth	6,202,000	431,000	80,000	407,000	226,000
Fort William, Ont.	275,000	.....	.....	.....	.....
Milwaukee	370,000	84,000	75,000	60,000	173,000
Port Arthur, Ont.	.....	.....	.....	.....	.....
Toledo	436,000	482,000	854,000	281,000	5,000
Toronto	43,000	.....	1,000	.....	35,000
On Canals	133,000	17,000	207,000	37,000	195,000
On Lakes	5,993,000	540,000	576,000	....	672,000
On Miss. River	.....	.....	.....	.....	.....
Grand Total	55,240,000	10,930,000	6,416,000	2,522,000	2,809,000
Corresponding Date, 1900	61,494,000	8,762,000	10,875,000	1,284,000	3,273,000
Increase for week	2,844,000	.....	....	.....	.....
Decrease " "	.....	297,000	187,000	32,000	98,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

TEXAS OIL AT THE WORLD'S FAIR.

Fuel oil from the wells of Texas will probably be used under the boilers of the big power plant of the Louisiana Purchase Exposition to be held in St. Louis in 1903. The Director of Works of the Exposition is looking into the feasibility of using Texas oil instead of the soft coal, which supplies very nearly all of the fuel for the big factories of St. Louis If the expense of the fuel oil, either in first cost or cost of transportation, is not prohibitive it will be used.

"Oil has vast advantages over soft coal as fuel," says Director of Works Taylor. "Its principal advantage for exposition uses, where cream white is the color of the buildings, is that it does away with the all-soiling, sooty smoke, which bituminous coal produces. It also eliminates the dust produced in handling soft coal and the ash from it.

"Oil can be transported into the grounds in a pipe line. This obviates the necessity for a railway switch into the grounds for handling ashes and coal. It does away with firemen, coal passers, and ash handlers. It obviates the necessity of banking fires during the time when they are not in maximum demand. The oil jet fire can be extinguished and raised to its maximum in an incredibly short time.

"I have received propositions from several large handlers of Texas oil looking to the use of that fuel. If we can make suitable arrangements for transporting the oil, the World's Fair at St. Louis in 1903 will be operated with Texas oil."

The power plant for the Louisiana Purchase Exposition is to be the largest on earth, with a capacity of upwards of 30,000 horse power. Electrical contractors from all parts of the United States are now in St. Louis gathering information regarding the plant. The big engines are to be located in the center of the machinery building as an exhibit, while the battery of boilers will be located where danger of fire to the exhibit buildings will be eliminated.

LAKE SUPERIOR WATER LEVELS.

The stage of Lake Superior in November, 1901, by the United States gauge at Houghton, Mich., as reported by J. H. Darling, U. S. Assistant Engineer, was 1.19 feet above low water datum. This is 0.12 foot lower than for the preceding month. The lake is usually falling at this season, the normal fall from October to November being 0.15 foot, so that the actual fall is slightly less than the normal. In this connection it may be noted that there was a deficiency in precipitation of 0.26 inch in November, and a deficiency of 0.63 inch in October at the Duluth station, as reported by United States Forecast Officer Richardson. Of course the Duluth record should not be expected to correctly represent the entire lake, but it is all that there is at hand at this writing. These variations from the normal are not great.

The November stage of the lake was 0.60 foot lower than in November a year ago, but it is 0.54 foot higher than the average November stage for a period of 26 years. It will be seen that the present water level is favorable for navigation.

DON'TS FOR GASOLINE ENGINES.

Don't use cheap cylinder oil or steam engine oil on your engine.

Don't fail to oil your engine every time you run it, and clean it up when through running.

Don't fail to see that the water is flowing properly when the engine is running.

Don't allow water to remain in the water-jacket around the cylinder while the engine is idle on a cold day.

Don't forget to throw off the switch or disconnect the wire when through running.

Don't allow your gasoline vaporizer or pipe to get filled with dirt.

Don't keep your batteries or spark coil in a damp place.

Don't fail to examine your engine occasionally.

Don't make any changes on your engine or allow a so-called expert to change your engine.

Don't blame the engine at once if it don't run; look for the trouble, follow the instruction book—it may be your fault.

Don't look for gasoline leaks with a lighted lamp or match.—American Machinist.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising or setting will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the sun's setting. The bearing may be taken when the sun's center is on the horizon, rising or setting. The elemen which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation, or the total difference between compass and true, or geographical bearings.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
Dec. 12	E. 32° S. =	S. 5⅛ E. =	S. E. by E. ⅛ E.
Dec. 19..	E. 32° S. =	S. 5⅛ E. =	S. E. by E. ⅛ E.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
Dec. 12....	E. 33° S. =	S. 5 E. =	S. E. by E.
Dec. 19....	E. 34° S =	S. 5 E. =	S. E. by E.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Date.	Amplitude.	Bearing P'ts.	Bearing Comp.
Dec. 12....	E. 34° S. =	S. 5 E. =	S. E. by E.
Dec. 19....	E. 35° S. =	S. 4⅞ E. =	S. E. ⅞ E.

LAKE SUPERIOR, LAT. 48° N.

Date	Amplitude.	Bearing P'ts.	Bearing Comp.
Dec. ..	E. 36° S. =	S. 4¾ E. =	S. E. ¾ E.
Dec. 19 ...	E. 37° S. =	S. 4⅝ E. =	S. E. ⅝ E.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

An influential deputation from Montreal waited upon the Dominion Government recently to urge the adoption of means for the improvement of the navigation of the St. Lawrence. Their prime object was to secure lower rates of insurance, but the means by which they proposed to effect their purpose are interesting from an engineering point of view. They want a thorough examination made of the St. Lawrence route from Montreal to Cape Race and Belleisle, by an experienced British hydrographic engineer, who would have Canadian engineers associated with him in the work. The Canadian government would be expected to undertake any works that might be recommended for the improvement of the route. Two improvements are urged, the deepening of the channels to 30 feet, with a width of 400 feet, and a system of buoys with lights, so that the channel could be navigated by night as well as by day. The deputation also urged the extension of the government railway west to a point on the Georgian Bay, so as to come into touch with the Great Lakes carrying trade and securing grain freights from Canadian seaports which now go to New York. The extension would probably take the form of an air line from Riviere du Loup to some point on the Georgian Bay, crossing at the new Quebec bridge. The deputation was cordially received and their representations will doubtless be favorably considered.

NOTICE TO MARINERS.

NEWFOUNDLAND.

OFF CAPE RACE—MAGNETIC VARIATION, CURRENTS, &C.—The hydrographer of the Admiralty has issued the following warning to mariners:

"As several wrecks have taken place in recent years on the southeast coast of Newfoundland, and some navigators appear to consider that the variation of the compass near Newfoundland may be sufficiently in error to cause such mishaps, it seems desirable that to state that the variation in this locality is sufficiently accurately determined for the purpose of safe navigation, and also to call the attention of mariners to the statements respecting the currents on the east coast of Newfoundland given in the Admiralty sailing directions."

"In the Newfoundland and Labrador Pilot, 1897, it is stated on page 18 that the currents and tides generally around Newfoundland are subject to anomalies of which the causes are unknown; 'on the east coast, for example, where the current goes generally to the southward, it sometimes happens that for a day or two the direction is reversed, and the current runs to the northward even against the wind.'"

"Again, on page 19 it is stated that over the banks southward of Newfoundland during south or southwest breezes there is a strong set to the northward, which is still stronger during and after a northeast wind."

"From observations made in vessels when repairing the submarine cables, and also from observations recently made by Staff-Captain Tooker, R. N., employed surveying on the Newfoundland coasts, it appears that on the eastern edge of the bank of Newfoundland, and from thence westward to the shore, the currents are very variable. The ordinary set of the current over the Great Bank is to the south-westward, but northeasterly currents are by no means rare."

"Mariners approaching Newfoundland in thick weather should, therefore, on no account neglect to use the lead and proceed with caution, as it is impossible to fortell with certainty how the current may have been setting."

This question has occupied the attention of this Department, and an investigation on the ground into the causes of the many wrecks was made by the Chief Engineer in August, 1901. As a result of his inquiries, as well as from the logs of vessels that have been wrecked between St. Mary Bay and Bay Bulls, it is evident that these vessels were considerably north of their reckoning. From information collected by Mr. W. B. Dawson, in charge of the Canadian Tidal Survey, from captains of coasting steamers and masters of schooners having long local experience, it appears certain that there is often a northerly indraught into the larger bays, especially on their easterly side. Very possibly this indraught may be stronger at spring tides or may vary with weather conditions. Local pilots also claim that most of the accidents that have occurred in this neighborhood, have been due to this indraught. There seems, therefore, to be sufficient evidence of its existence to emphasize the warning issued by the Hydrographer of the Admiralty.

On an eastward course, the best practice, as explained by one of the navigating lieutenants of the North American Squadron, is to allow an offing of 15 miles in rounding the southern capes. In thick weather an additional half point, or even a whole point, is allowed by careful navigators. Safety can be made certain by frequent soundings, and by keeping outside of the 40-fathom line; and when the deep gully is reached, which separates the east coast of Newfoundland from the Great Bank, the course may be shaped to the northward, but not before.

All the wrecks which have occurred on eastward courses are within 12 miles of the ends of the southern capes and points, as shown by a wreck chart compiled by R. W. White, Esq., Inspector of Lighthouses for Newfoundland.

F. GOURDEAU,
Deputy Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, CANADA 26th November, 1901.

All bearings unless otherwise noted, are magnetic and are given from seaward, miles are nautical miles, heights are above high water, and all depths are at mean low water.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, report the condition of the Eastern freight market as follows:

With the exception of an increased demand for tonnage from the Gulf ports, particularly for Bremen and Havre, caused by a more active movement in cotton from that district, there is no improvement to report. Cotton shippers from the Atlantic ports show no anxiety to take up further steamers, those already chartered evidently being quite sufficient to meet present requirements.

There is no demand whatever for vessels on the part of grain shippers, business in this direction being practically at a standstill. Some few charters have been effected for coal and there are further inquiries in the market both to Europe and South American ports, but rates in every department and in all directions are most unsatisfactory.

The market for sail tonnage remains inactive. With scarcely any tonnage of consequence seeking employment the situation is a nominal one.

Liverpool grain freights are quoted at 2½ cents. London 3 cents and the same to Glasgow; 4½ cents is asked to Bristol and Hull.

Tug and Tow.—Abandonment of Tow in Storm.—Tow Without Anchor.—Respondents' tug, under a general arrangement to perform towage service for libelants on request, took a scow up the Hudson to be loaded with stone at Verplanck's Point, and after she was loaded placed her with others off Grassy Point, where it was customary to make up tows, but which was an exposed and dangerous place in severe storms from the northeast or southeast. This was at 6 p. m., and the tug agreed to return so as to start down with the tow at nine. The weather was stormy, with wind from the northeast and snow, but not so bad as to render it negligent in the tug to leave the scow where she was, or to indicate that it would not be safe to proceed with the tow that night. It became worse, however, and the tug did not return, although she could readily have done so, and taken the scow to a safer place. The scow was not provided with an anchor, as was the case with many of the stone scows, and during the night, after the storm had greatly increased, she broke from the scow to which she was fastened, and drifted upon the rocks and was injured. Held, that the scow was in fault for not having an anchor; that the tug was in charge of the scow from the time she was taken from her moorings where she was loaded, and was charged with notice that she probably had no anchor, and with the duty of returning and taking her to a less dangerous place, and because of the failure to perform such duty was liable for one-half the loss. Brown et. al. vs. Cornell Steamboat Co., 110 Fed. Rep. (U. S.) 780.

THE tidal differences given for the Bay of Fundy in Noel Bay, Minas Basin, is placed at 50½ feet springs and 43½ feet at neap tides. These figures are issued for the tidal survey branch of the Department of Marine and Fisheries of the Dominion of Canada. Re-printed from Greenwood's Nautical Almanac and tide tables for 1902.

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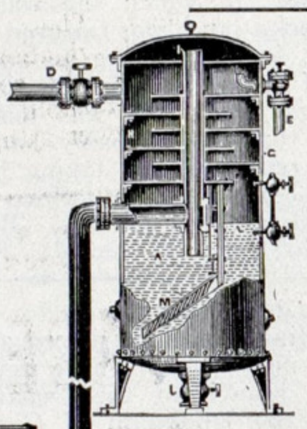

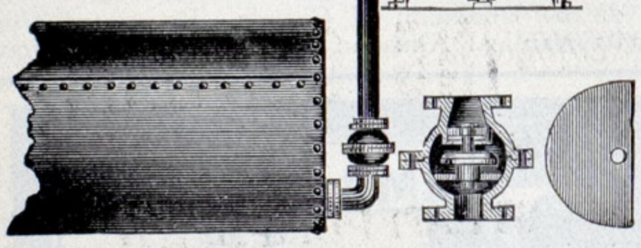

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Minnesota Iron Co.'s steamer Presque Isle.

American Steel Barge Co.'s steamer Alex. McDougall.

Lake Michigan & Lake Superior Transportation Co.'s steamer Manitou.

Bessemer Steamship Co.'s steamers S. F. B. Morse and Douglas Houghton.

American Transportation Co.'s steamers John Harper and Alex. Nimick.

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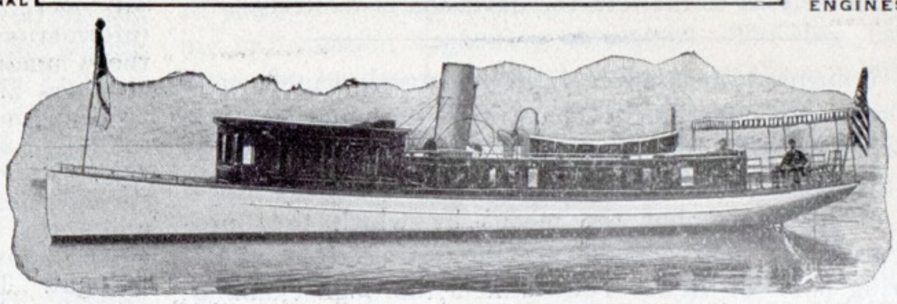

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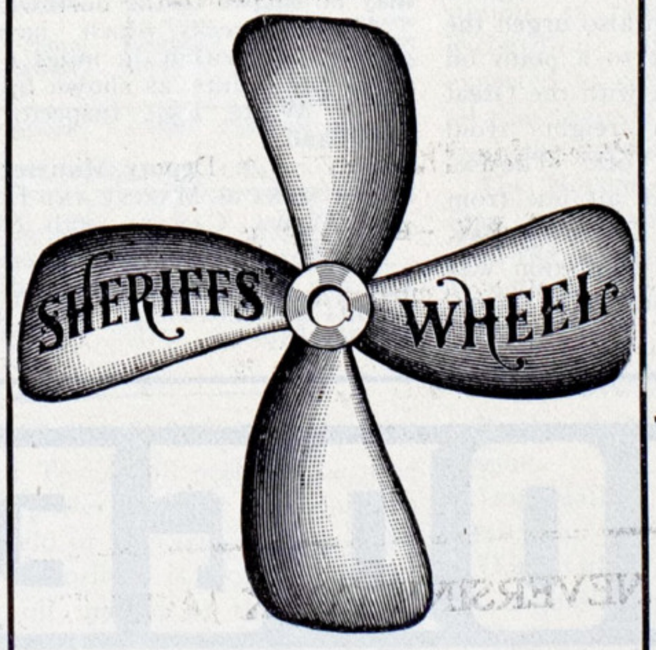

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FLOTSAM, JETSAM AND LAGAN.

A steamship using oil for fuel recently made a voyage from Borneo to Great Britain, a distance of eleven thousand miles, in splendid time, and at a reduced cost of handling. Three firemen did the work of twenty, with less discomfort and efficiency This has practically demonstrated the utility of fluid fuel, and now three oil depots are to be erected at Dover in the English channel.

Capt. McDougall, of the C. P. R. steamer Athabasca, has been awarded the parchment certificate for the Royal Humane Society for distinguished bravery, and is to receive a suitable testimonial from the United States government, in connection with the rescue of the captain and crew of the barge Preston, in June last, on Lake Superior.

Probably no engineer ever ran out of the port at St. Louis that is better known than Captain J. W. Shea, who is, at the present time, residing at Philadelphia, where he holds a position as president and general manager of the Wetmore Mfg. Co. Capt. Shea dates his engineering experience back before the war, following that line of service until somewhere in the 80's, when he became master of a government steamer. Capt. Shea will also be remembered by most of the old-time engineers of this city as the representative from St. Louis, who, with nine others, formed the National Marine Engineers' Beneficial Association in February, 1875, in the City of Cleveland, Ohio.—The Waterways Journal, St. Louis.

Next to the Hudson, the most serious loss of the season was the Baltimore, which foundered on Lake Huron with a loss of 13 sailors, May 24th. The tug Fern carried down five men on Lake Superior June 29th, and when the whaleback barge Sagamore was sunk on Lake Superior by collision with the Northern Queen three of her crew went down with the wreck. Four Canadian sailors were lost in trying to save the derelict schooner Marine City on Lake Huron November 26th, and the same number of American sailors were lost in trying to save the old barge Jupiter in about the same locality two months earlier

Some extensive discoveries of iron have recently been made at Steep Rock Lake, near Port Arthur, Ont., the deposits of which are believed to be a continuation of the Atikokan iron range. The Crown Lands Department report that several thousand acres of iron-bearing land have recently been applied for in the region of Steep Rock Lake.

The Charlton Sawmill Co., Collingwood, Ont., has been in corporated with a capital of $75,000, to manufacture timber, lumber, etc. The provisional directors include Thomas Charlton, North Tonawanda, N. Y.; John Charlton, Lynedoch, Ont.; T. J. McClennan, Collingwood, Ont.; and M. A. Charlton, Toronto.

Try as he would, it was impossible for Neptune to conceal his great joy.

"What's eating you?" asked Davy Jones.

"The mermaids have no stockings to hang up for Christmas;" and again did the sea king laugh immoderately.—The Marine Journal.

Leatham & Smith will have the fire damaged steamer Elfinmere towed to Sturgeon Bay for reconstruction. They paid $6,000 for the wreck.

WIRELESS TELEGRAPHY.

A further test of wireless telegraphy as a means of adding to the safety of ocean navigation is about to be made by Marconi, the inventor, off the coast of Newfoundland and Labrador. Signor Marconi arrived at St. Johns, N. F., the other day, and he will at once begin experiments to demonstrate whether it is possible to safeguard the vessels which navigate the St. Lawrence route and the ocean liners which often meet with disaster on the banks of Newfoundland.

He says that he believes it will be possible to communicate with vessels four hundred miles out to sea, and he is confident of his ability to transmit messages at least two hundred miles without difficulty. By this means he will be enabled to locate the different liners and report their arrival on this side of the ocean long before they reach New York. He believes his work will greatly enhance the safety of that dangerous coast line, and he has been assured of the hearty support of the Newfoundland government in the experiments he will make.

There seems to be no further doubt of the practicability of wireless telegraphy. Professor Willis L. Moore, the Chief of the Weather Bureau, in his recent annual report, says that the government experiments have demonstrated that messages can be transmitted a long distance by means of the Marconi system, and it is believed by him that further experiments will show more satisfactory results.

STEAMERS FOR SALE.

The undersigned offers for sale by tender the passenger steamers Niagara and Canada, lying at the York St. wharf, Toronto.

The Niagara is an iron hull, screw steamer, built at Glasgow, Scotland; registered tonnage, 225.34 tons; length, 159 ft.; breadth 21.1 ft.; depth, 10.4 ft.; draft, 7 ft. Tenders for the purchase of the Niagara will be received by the undersigned at 97-98 Freehold Bldg., Toronto, till December 20, 1901.

The Canada is a wooden hull, screw steamer, built at Wallaceburg, Ont., 1874. Registered tonnage, 208.55 tons, length, 123.2 ft.; breadth, 24.1 ft.; depth, 6.7 ft.; draft, 9 ft. Tenders for the purchase of the Canada will be received by the undersigned at the said address till February 1st, 1902.

A large amount of money has lately been spent in the repair and equipment of these vessels. For further particulars, apply to the undersigned.

Purchasers will be required to pay all the purchase money forthwith after acceptance of tender or tenders. These boats are assets of the Toronto Navigation Co., limited, insolvent, and must be sold. A. C. Neff, assignee, 97-99 Freehold Bld., Toronto, Ont., dated, November 25th, 1901.

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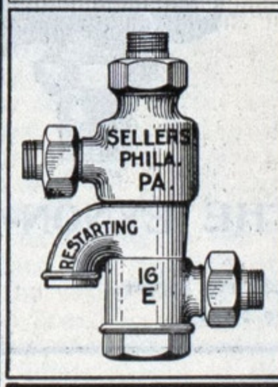

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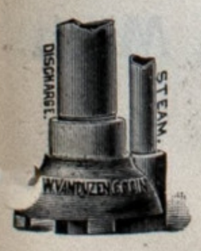

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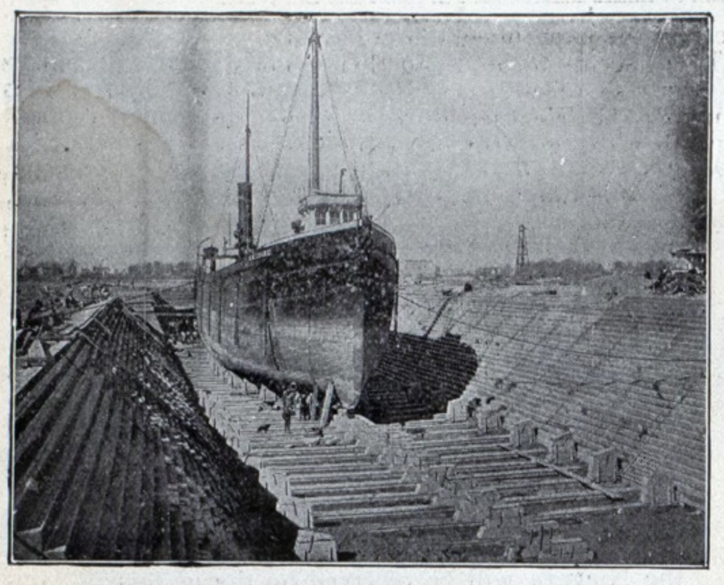

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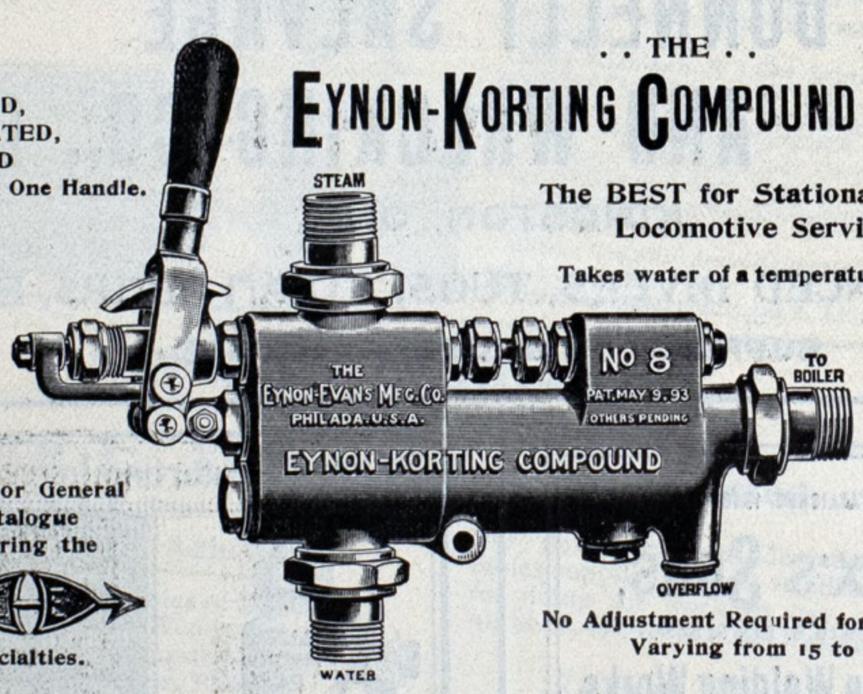

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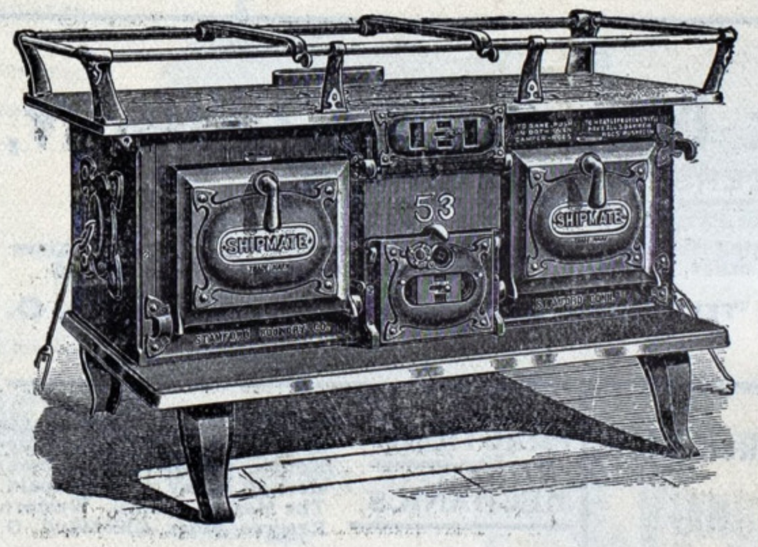

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